



Empowering Communities with Vital Dengue Knowledge: As a Measure of Prevention

Kripa Raghunathan
Associate Professor, GSI, Bengaluru



Introduction:

Dengue is a viral disease that is transmitted by mosquitoes.

According to the Directorate of the National Vector Borne Disease Control Programme (NVBDCP), India has reported over 19,447 dengue cases and 16 deaths so far in 2024. In-State and Union Territories of India, dengue is endemic. It is seen that due to floods and monsoon season, rain in certain states causes more fear of dengue cases.

It can lead to flu-like illnesses like high fever with a headache, and severe muscle and joint pain. In recent decades, the incidence of dengue has increased. Mainly, it occurs in tropical and subtropical areas of the world.

If Dengue is mild then it causes high fever, rash, muscle, and joint pain but if it is severe then it can cause severe bleeding, a sudden drop in blood pressure and death. Severe dengue fever is known as dengue hemorrhagic fever.

National Dengue Day 2024: It is observed on May 16 in India to create awareness about dengue, how it is caused, preventive measures and methods to control the disease in the country.

It is endemic to more than 100 countries in the world. Every year, National Dengue Day is observed to spread awareness about the disease and how to combat it.

Significance:

The theme for this year's National Dengue Day is - ***Dengue Prevention: Our Responsibility for a Safer Tomorrow.***



The day is observed to start conversations regarding the disease and speak of the treatment facilities available that can help in combating the disease. The treatment options should be made accessible to everyone. The day also identifies the efforts that are being made to ensure that the disease is eradicated soon.

Symptoms of Dengue

During the mild case of dengue fever, hardly any signs or symptoms occur in children or teens. If symptoms occur, they will last for four to seven days after being bitten by an infected mosquito.

- Headache
- Joint or muscle pain
- Nausea
- Vomiting
- Swollen glands
- Pain behind the eyes
- Rash etc.

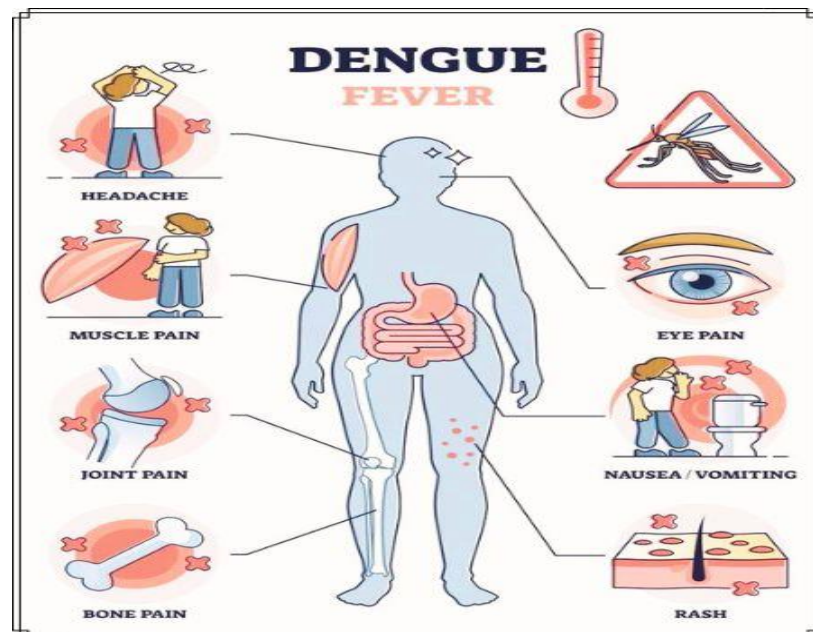
Warning signs of severe dengue fever

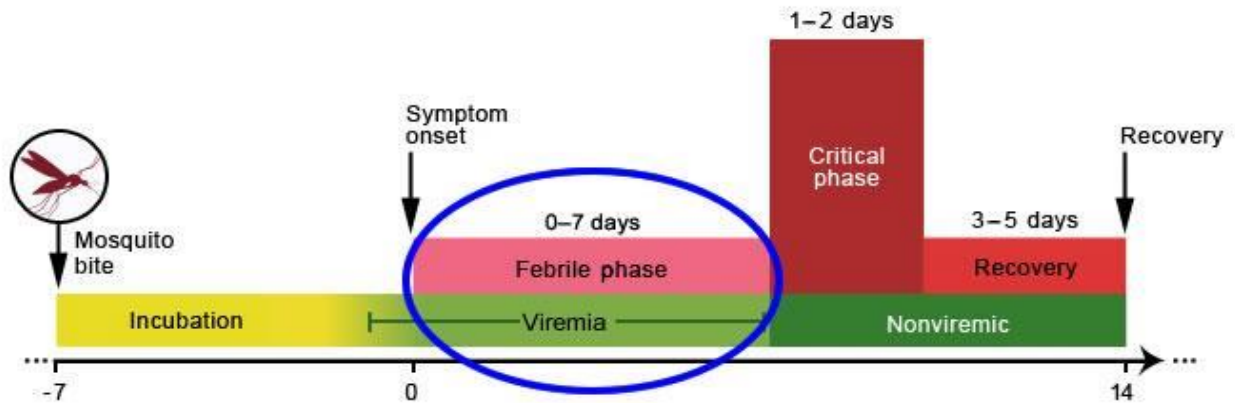
Most people recover within a week or so.

But in some cases, symptoms worsen and become life-threatening and cause severe dengue fever. In this condition, blood vessels are damaged or become leaky.

Platelets in the bloodstream drop. During severe dengue fever symptoms that occur are:

- Severe abdominal pain
- Blood in urine, stools or vomiting
- Fatigue
- Restlessness
- Difficulty in breathing
- Bleeding from gums or nose
- Bleeding under the skin etc.

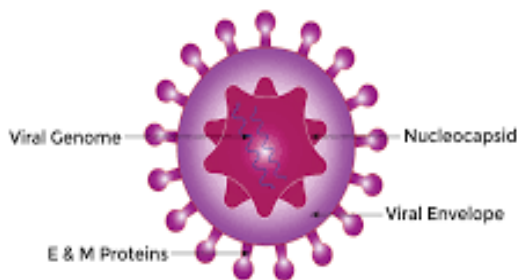




Causes of Dengue

Dengue fever is caused due to four types of dengue viruses spread by mosquitoes. All the virus are spread via mosquito species known as *Aedes aegypti* or by the *Aedes albopictus* mosquito. The dengue virus comprises four distinct serotypes (DEN-1, DEN-2, DEN-3 and DEN4). They belong to the genus *Flavivirus*, family *Flaviviridae*.

DENGUE VIRUS



When a mosquito is infected with the dengue virus and bites a person, the virus enters the mosquito. When this infected mosquito bites another person, the virus enters the bloodstream of the person, resulting in infection.

Diagnosis for Dengue

Dengue fever is diagnosed with a blood test that looks for the dengue virus or antibodies to it.

- **Complete blood count (CBC or CBP)** - to check the platelet count typical of the later stages of the illness and to detect the decrease in hematocrit, hemoglobin, and red blood cell (RBC) count (evidence of anemia) that would occur with blood loss associated with severe dengue fever.



- **Dengue Serology Test (Dengue IgG & IgM)** - to detect antibodies produced by the immune system when a person has been exposed to the virus; these tests are most effective when performed at least 4 days after exposure in both primary and secondary infections.
- **Dengue Virus Antigen Detection (NS1)** - to confirm

Dengue viral infection. This test is useful to diagnose early dengue infection and can be conducted within 1-2 days following Dengue infection.

In case of severe symptoms Doctors may suggest other blood test and radiology imaging test to know the spread of dengue infection to other organs, these may include: Liver function tests (LFT), Renal Function Test (RFT), Ultrasound abdomen (USG) , ECG, Chest X-ray , Fibrin degradation products blood test, 2D echocardiography (2D Echo).

Treatment for Dengue fever

Dengue is a virus, so there is no specific cure or treatment. But intervention can help depending on how severe the disease is.

In mild the dengue fever:

- Due to high fever and vomiting, a patient should take lots of water and rehydration salts.
- Painkillers like Tylenol or paracetamol can help in the reduction of fever.

If the Dengue fever is severe then, Intravenous fluid (IV) supplementation can help. For patients suffering from severe dehydration, blood transfusion and hospitalisation is required.

Prevention and control



According to the World Health Organization, a vaccine is not an effective tool, on its own, to reduce dengue fever in areas where the illness is common. So far one vaccine (QDenga) has been approved and licensed in some countries. However, it is recommended only for the age group of 6 to 16 years in high transmission settings. Several additional vaccines are under evaluation.

It is necessary to control the mosquito population and human exposure which is the most critical part of preventive efforts. It is also important to avoid mosquito bites. The mosquitoes that spread dengue are active during the day.

Lower the risk of getting dengue by protecting oneself from mosquito bites by using:

- Clothes that cover as much of one's body as possible.
- Mosquito nets if sleeping during the day, ideally nets sprayed with insect repellent; window screens should be used.
- Mosquito repellents (containing DEET, Picaridin or IR3535); and coils and vaporizers can be used.

Mosquito breeding can be prevented by:

- preventing mosquitoes from accessing egg-laying habitats by environmental management and modification
- disposing of solid waste properly and removing artificial man-made habitats that can hold water
- covering, emptying and cleaning domestic water storage containers on a weekly basis
- Applying appropriate insecticides to outdoor water storage containers.

Dengue Fever Prevention Tips



Recovery Phase of Dengue

The dengue recovery time varies depending on the severity of the illness and the individual's immune response. In most cases, individuals with mild dengue fever begin to recover within a week after the onset of symptoms.

Signs of recovery include:

- Fever-free for more than 48 hours
- Improved appetite
- Urinating more often
- Feeling less tired
- Platelet test levels start to increase
- Appearance of small white skin patches within larger red areas, also known as a "convalescent rash"

To help with recovery:

- Get plenty of rest
- Stay hydrated by drinking water, isotonic drinks, fruit juices, and soup
- Avoid tea, coffee, alcohol, and soft drinks with high sugar content, which can cause dehydration
- Maintain a healthy diet
- Monitor for any signs of worsening symptoms or complications
- Seek medical attention as needed

References

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