

# Knowledge and Awareness of Dengue Fever

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## ABSTRACT

Dengue fever is a painful mosquito-borne infection caused by different types of virus in various localities of the world. There is no particular medicine or vaccine to treat person suffering from dengue fever. Dengue viruses are transmitted by the bite of female *Aedes* (Ae) mosquitoes. Dengue fever viruses are mainly transmitted by *Aedes* which can be active in tropical or subtropical climates. *Aedes Aegypti* is the key step to avoid infection transmission to save millions of people in all over the world. This paper provides a standard guideline in the planning of dengue prevention and control measures. At the same time gives the priorities including clinical management and hospitalized dengue patients have to address essentially.

**Keywords :** *Aedes*, Hemorrhagic, Syndrome

## I. INTRODUCTION

Dengue symptoms typically begin three to fourteen days after infection. This may include a high fever, headache, vomiting, muscle and joint pains, and a characteristic skin rash. Recovery generally takes two to seven days. In a small proportion of cases, the disease develops into the life-threatening dengue hemorrhagic fever, resulting in bleeding, low levels of blood platelets and blood plasma leakage, or into dengue shock syndrome, where dangerously low blood pressure occurs.

## II. LITERATURE SURVEY

Bhatt S(2013), discusses that the infection total is more than three times the dengue burden estimate of the World Health Organization. GuzmanMG(2010), surveyed Dengue fever and dengue haemorrhagic fever are important arthropod-borne viral diseases. Each year, there are ~50 million dengue infections and ~500,000 individuals are hospitalized with dengue haemorrhagic fever, mainly in Southeast Asia,

the Pacific and the Americas. Schwartz E(2008), stated that Dengue can thus be added to the list of diseases for which pretravel advice should include information on relative risk according to season. Freedman DO(2006), explained that the travelers returning from sub-Saharan Africa, rickettsial infection, primarily tick-borne spotted fever, occurred more frequently than typhoid or dengue. Travelers from all regions except Southeast Asia presented with parasite-induced diarrhea more often than with bacterial diarrhea. Mohammed HP(2010) said One thousand one hundred and ninety-six suspected travel-associated dengue cases were reported-334 (28%) were laboratory-positive, 597 (50%) were laboratory-negative, and 265 (22%) were laboratory-indeterminate. Wilder-smith A(2005), stated that most of dengue virus infections in travellers are acquired in Asia, followed by the Americas and only a small proportion in Africa. StreitJA(2011) determined incidence of dengue fever among hospitalized patients and to analyze the recent trend in hospitalizations among patients with this disease. Letson(2010), concluded that this means that

even if dengue vaccine or vaccines were proven safe and efficacious, they may not be available to many developing countries in need, mimicking the decades' long delay attending availability of hepatitis B vaccines.

### III. History of Dengue

The first evidence of occurrence of DF in the country was reported during 1956 from Vellore district in Tamil Nadu. The first record of a case of probable dengue fever is in a Chinese medical encyclopedia from the Jin Dynasty (265–420 AD) which referred to a “water poison” associated with flying insects. The first recognized Dengue epidemics occurred almost simultaneously in Asia, Africa, and North America in the 1780s, shortly after the identification and naming of the disease in 1779. The first confirmed case report dates from 1789 and is by Benjamin Rush, who coined the term "breakbone fever" because of the symptoms of myalgia and arthralgia.

The viral etiology and the transmission by mosquitoes were only deciphered in the 20th century. The socioeconomic impact of World War II resulted in increased spread globally. Nowadays, about 2.5 billion people, or 40% of the world's population, live in areas where there is a risk of dengue transmission.

### IV. Possible factors for dengue fever spread

- Unplanned urban over population of areas leading to inadequate housing and public health systems (water, sewerage and waste management)
- Poor vector control, e.g., stagnant pools of water for mosquito breeding
- Climate change and viral evolution
- Increased international travel (recreational, business or military) to endemic areas

All of these factors must be addressed to control the spread of dengue. Unplanned urbanization is believed

to have had the largest impact on disease amplification in individual countries, whereas travel is believed to have had the largest impact on global spread.

### V. Causes of Dengue

Dengue fever is caused by any one of four types of dengue viruses spread by mosquitoes that thrive in and near human lodgings. When a mosquito bites a person infected with a dengue virus, the virus enters the mosquito. When the infected mosquito then bites another person, the virus enters that person's bloodstream. If a person recovered from dengue fever that person have immunity to the type of virus that infected by person but not to the other three dengue fever virus types. The risk of developing severe dengue fever, also known as dengue hemorrhagic fever, actually increases the person will be infected a second, third or fourth time.

#### Symptoms of dengue:

Symptoms, which usually begin four to six days after infection and last for up to 10 days, may include sudden heavy fever, severe headache, pain behind eyes, severe joint and muscle pain, fatigue, nausea, vomiting, skin rash and bleeding gums. Sometimes, symptoms are mild and can be mistaken for those of the flu or another viral infection. Younger children and people who have never had the infection before tend to have milder cases than older children and adults. However, serious problems can develop. These include dengue hemorrhagic fever, a rare complication characterized by high fever, damage to lymph and blood vessels, bleeding from the nose and gums, enlargement of the liver, and failure of the circulatory system. The symptoms may steps forward to massive bleeding, shock, and death. This is called dengue shock syndrome. People with weakened immune systems as well as those with a second or

subsequent dengue infection are believed to be at greater risk for developing dengue hemorrhagic fever.

## VI. Dengue Prevention and Control methods

There is no vaccine to **prevent** human **infection** by this **virus**. Personal protection and the environmental management of mosquitoes are important in preventing illness. The best way to reduce mosquitoes is to eliminate the places where the mosquito lays her eggs, like artificial containers that hold water in and around the home. In urban areas, Aedes mosquito breed on water collections in artificial containers such as plastic cups, used tires, broken bottles, flower pots, etc. Periodic draining or removal of artificial containers is the most effective way of reducing the breeding grounds for mosquito. Larvicide treatment is another effective way to control the vector larvae but the larvicide chosen should be long-lasting and preferably. There are some very effective insect growth regulators (IGRs) available which are both safe and long-lasting (e.g. pyriproxyfen). For reducing the adult mosquito load, fogging with insecticide is somewhat effective.

### To eliminate standing water:

- Unclog roof gutters;
- Empty children's wading pools at least once a week;
- Change water in birdbaths at least weekly;
- Get rid of old tires in your yard, as they collect standing water;
- Empty unused containers, such as flower pots, regularly or store them upside down;
- Drain any collected water from a fire pit regularly.

### Clinical management of dengue fever

Dengue infection is a systemic and dynamic disease. It has a wide clinical range - ranging from flu like illness to severe dengue - which could be fatal.

For a disease that is so complex in its manifestations, management is comparatively simple, inexpensive and very effective in saving lives as long as correct and timely interventions are instituted.

The key is early acknowledgment and understanding of the clinical problems during the different phases of the disease, leading to a rational approach to case management and a good clinical outcome. Case control at the primary and secondary care levels (where patients are first seen and evaluated) are critical in determining the clinical outcome of dengue. A well-managed front-line reaction reduces hospital admissions and also saves lives.

## VII. Existing System

In the existing system awareness programmes are arranged through awareness campaigns, TV advertisements and Invited Talks by Doctors to School and College Student community.

## VIII. Proposed System

In the proposed system awareness is planned through social media like whatsapp, facebook, twitter to prevent dengue fever. By using Data mining technology explain the most common dengue testing available, Providing Donors details and Blood services, Linking the patient details to blood bank to collect for blood testing as well as informing to the Health Department.

## IX. CONCLUSION

Dengue fever is a dangerous and debilitating disease, and it's a growing threat to global health. Dengue fever is the second most widespread in the world. The world health organizations have estimated that between 50 and 100 million people suffer from dengue fever each year: that's more than the population of the UK- every year! The biggest issue is that dengue fever is spreading fast, but currently has no treatment for it. This disease can affect you because someday it might travel to the place you live. Also, your family members or friends might live in a place where dengue fever is common and they might get the disease. Dengue was first recognized in the 1950's during dengue epidemics in the Philippines and Thailand. Today, dengue affects most Asian and Latin American countries and has become a leading cause of hospitalization and death among children in these regions. Also, there's no vaccine to protect against dengue fever. However, major progress has been made in developing a vaccine against this cure.

## X. REFERENCES

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