#### Epidemiology

Dengue fever is a tropical disease that is transmitted by Aedes mosquitoes that have been infected with the dengue virus. The mosquito gets this infection when it bites an individual who has been infected by the dengue virus and it can be directly spread from one individual to another. The main cause of the Dengue virus is a group of four viruses known as serotypes and they are highly related, and they include (DENV-1, DENV-2, DENV-3, and DENV-4) (Jiménez-Silva, et al, 2018). The population of patients who get the disease varies widely, with evidence showing that most cases take place in tropical regions of the world. Areas that are most prevalent include the Indian subcontinent, Southeast Asia, Taiwan, Southern China, the pacific Islands, the Caribbean, Africa, and South and Central America. According to dengue fever poses a threat to more than one-third of the human population across the world. Statistics indicate that millions of people are infected with the dengue virus every year and more than half of these cases usually result in disease. The dengue fever is regarded as a painful and debilitating disease and it is closely associated with viruses that cause yellow fever and West Nile infection.

The risk factors of being infected by the disease usually depend on the region where people reside. For instance, evidence indicate that individuals who live in tropical countries are at the highest risk of being exposed and infected by the disease. Furthermore, people who travel to other regions and countries that have a higher prevalence rate of the disease are also at risk of being infected. The common signs and symptom of Dengue fever include high fever, vomiting, headache, joint and muscle pains, and skin rash. It takes approximately two to seven days for an individual to recover. Evidence indicates that in minimal instance, the illness can develop into severe dengue, which is also referred to as the dengue hemorrhagic fever. In such cases, the disease can result to low blood platelets levels, bleeding, leakage of blood plasma, or what is known as dengue shock syndrome that occurs when the blood pressure is dangerously low. Dengue virus is usually spread by the female species of mosquitoes of the Aedes type, which is scientifically known as A. aegyoti. There are five types of the virus and evidence indicates that when one is infected by a single type of the virus usually acquires a lifelong immunity to that type, and a short-term immunity to the rest of the viruses. Nevertheless, scholars argue that consequent infection by different forms of the viruses tend to raise the dangers of suffering from severe complications. This is because the short-term immunity may increase the risk of the disease staying for long before the symptoms can be noticed and treated. There are various tests that can be used to diagnose the viruses, and this includes detection of antibodies to the virus as well as its RNA>

## History & Evolution of the Disease

The origin of the Dengue disease is not clearly understood but scholars argue that the disease dates back more than 1,000 years. 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 (de Araújo, Bello, Romero & Nogueira, 2014). 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 (see also Dengue epidemiology). Nowadays, about 2.5 billion people, or 40% of the world's population, live in areas where there is a risk of dengue transmission. Dengue spread to more than 100 countries in Asia, the Pacific, the Americas, Africa, and the Caribbean.

#### Prevalence, Incidence, Mortality, Morbidity rates of Disease

The dengue fever is increasingly prevalent in tropical nations as a result of rapid population growth, climate, increased trade and travel, and unplanned rapid urbanization. According to Jiménez-Silva, et al, (2018), the burden of this illness is high across the globe, with 58.4 million cases reported in 2013, and 1.14 million disability-adjusted life years. Scholars argue that a higher risk of acquiring the severe type of dengue virus is associated with co-circulation of numerous serotypes since they are dependent on aantibodies ad they enhance infection of certain strains. Thus, it is essential to document the prevealance of serotype as well as the dynamics of genetic variants that assist in predicting epidemic impact, management of the epidemic, and preparedeness to deal with thr disease.

Various countries in the tropical regions have reported numerous cases of the dengue virus. For instance, Colombia is a South American nation that have high incidences of dengue virus. For example, between 1980 and 2007, close to 752,429 cases of the disease were reported, with country-wide epidemics ocuring in 2001/2002, 2010, 2013/2014 (Jiménez-Silva, et al, 2018). The epidemics had an average of over 100,000 and 200,00 people suffering from the ailment.

# **Prevention and Treatment**

### References

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