Spread OF DENGUE VIRUS IN PAKISTAN

1) INTRODUCTION.

Dengue is an infectious disease, which is caused by mosquito (aedes aegypti) which bites in daylight hours. Aedes Aegypti is that specific type of vector that carries dengue virus in its blood; all mosquitos cannot transfer dengue virus.

It belongs to **Flaviviridae family** which causes dengue only in humans. The infection caused by dengue is known as **Arboviral illnesses**.

Degue cause severe flu symptoms, which are

• High fever (104 or more).

• Pain in joints and muscles.

• Severe headache.

• Skin rashes.

• Facial flushing.

a. BACKGROUND INFORMATION.

Dengue fever is foremost common mosquito-borne infectious agent disease within the world. It is commonly spread in humans by an infected Aedes aegypti or Aedes albopictus mosquito bite. Dengue infection is caused by four antigenically distinct but closely related viruses (DEN 1-4). Infection with one of the viruses is believed to endow lifetime immunity to future infections from the same virus, but only other types of short-term cross-immunity may lead to the possibility of secondary infection. Dengue Hemorrhagic fever or Dengue Shock Syndrome (DHF / DSS), the more severe type of dengue infection, sometimes results when a person is re-infected with another virus serotype during their lifetime. The most commonly accepted theory for the development of more severe dengue infections is antibody-dependent growth, although other factors are likely to play a role. Complicated infection by DHF / DSS in areas where dengue is endemic is most frequently seen in the latter part of the first year of life, when maternal antibodies may increase the development of more severe infections, and young school-age children may experience secondary Infection. Extensive infection is most commonly seen during the rainy season of endemic areas when the breeding habitat of Aedes mosquito is most favorable.

b. STATEMENT OF PROBLEM.

c. SIGNIFICANCE OF STUDY.

Dengue has become a serious danger posed to health worldwide, and scientists are trying to discover the real causes of the disease. With gradual but steady progress, researchers hope to determine better diagnosis and treatment of dengue. Current dengue research aims at providing better surveillance to limit the effects of dengue. Scientists these days are looking for how dengue virus intrudes into the human body and reaction of human immune system to the virus. Researchers want to figure out if some genetic factors are involved in the increased or reduced risk of infection in individuals. Some people may be at risk of developing more severe symptoms than others on basis of genetic factors. Moreover, scientists are studying the vector biology of dengue to understand its ecological and biological characteristics, and behaviors it exhibits to understand how mosquitoes transmit the dengue virus.

d. SCOPE OF STUDY.

e. LIMITATION OF STUDY.

The lack of specific and cost-effective assays is the major obstacle to the development of diagnostic tools for dengue virus detection. Although virus isolation is isomer specific, it is limited due to being time-consuming and expensive, requiring expertise, inability to differentiate between primary and secondary infections, and acute sampling (5–5 days after onset of fever). Nucleic acid (RNA) detection, although sufficiently sensitive and specific to identify both serotypes and genotypes in a short time, is also restricted by an acute sample, the need for efficient handling and its inability to distinguish primary from secondary infections. is. In addition, it is an expensive device that is not affordable by all laboratories. Although these limitations are being overcome by the identification of NS1 antigens, its sensitivity is poor compared to genome detection methods and cannot be guaranteed. Tests that measure anti-dengue IgM antibodies are only useful for the first 4-6 days after infection. In addition, the level of IgM in secondary infection is quite low and may be below the threshold for detection. Furthermore, IgG specificity decreases due to cross-reactivity between flaviviruses.

f) REVIEW OF RELATED LITERATURE.

Dengue is an infection caused by a virus. People can get infected if a dengue mosquito bites them. Dengue does not spread from person to person. It is common in hot, wet regions of the world. Outbreak occurs in the rainy season. Dengue is rare in the United States.

Symptoms include high fever, headache, joint and muscle aches, vomiting and rash. In rare cases, dengue turns into dengue hemorrhagic fever, which causes bleeding from your nose, gums, or under your skin. It can also cause dengue shock syndrome, which causes massive bleeding and shock. These forms of dengue are fatal.

There is no specific treatment. Most people suffering from dengue recover within 2 weeks. Until then, drinking plenty of fluids, resting, and taking non-aspirin fever-reducing medications may help. People with more severe forms of dengue usually need to go to the hospital and obtain fluids.