

To Editor, Dengue virus is an endemic disease which has great public health significance in terms of morbidity and mortality. The disease has recently had major epidemics in most tropical and sub tropical areas with an estimated 50 to 100 million cases of Dengue fever and about half a million cases of Dengue hemorrhagic /Dengue shock syndrome worldwide every year, Dengue is now recognized as one of the major public health concerns globally.

Today, dengue is prevalent in more than 100 countries across Asia, Africa, America, Eastern Mediterranean, and West Pacific. Central to this is the enlarging habitat of its vectors, *Aedes Aegypti* and *Aedes Albopictus*. Particularly *Aedes Aegypti* has taken advantage of increased urbanization rates and crowding to transmit the virus. The causes are multiple and include increases in the numbers of infected and susceptible human hosts, strains of dengue virus, and size of mosquito population. Also involved are changes in feeding habits, time from infection to infective state, and the likelihood of virus transmission from human to mosquito to human. Temperature also affects vector distribution, size, feeding habits, and extrinsic incubation period. *Aedes Aegypti* in particular, is highly adaptive in crowded areas; hence epidemics have been seen in cities with un-planned urbanization and overcrowding.

Dengue fever is the most prevalent arthropod borne illness in humans produced by the genus flavivirus and consists of four distinct serotypes, namely DENV-1, DENV-2, DENV-3 and DENV-4. The virus can produce clinical symptoms that vary from a mild, self limited fever, rash and joint pain (Dengue Fever)¹ which can be undiagnosed or misdiagnosed, to severe illness recognized as hemorrhagic dengue and dengue shock syndrome.² Age is an important variable in the outcome of secondary dengue infection. Exposure of the virus occurs in the infantile to juvenile period and the prevalence of Dengue virus specific IgG increases with age and

reaches its peak before adolescence. Case fatality and hospitalization rates are higher in young infants and the elderly. Infection induces life long protective immunity to the homologous serotype but confers transient protection against other three serotypes.³ Pakistan had dengue outbreaks in recent years owing to rapid urbanization, population growth and poor health planning. Epidemics have been reported especially in urban areas of Karachi and Lahore; the situation worsening especially after monsoon rains and floods. In October 2010, a total of 1,809 cases were suspected out of which 881 cases were confirmed of Dengue infection.⁴ In 2011, the worst outbreak occurred in the country when more than 14 000 people were affected with dengue with over 300 deaths⁵.

Until now there have been no studies to investigate the prevalence of dengue virus antibodies in the population in Pakistan; In a recently conducted study to estimate the prevalence of Dengue virus specific IgG among the asymptomatic children (from 1-15 years), conducted in an urban slum of Karachi, it was found that 46% of the population less than 15 years are positive for IgG in their serum indicating previous infection making these children more prone to develop severe haemorrhagic fever if re-infected with different dengue serotype. Considering the current situation of Dengue virus epidemics and limited data in Pakistan, urgent stringent measures and oversight is required to ensure the development of an effective preventive and curative program.

REFERENCES:

- 1 Black WC, Bennett KE, Barillas-Mury CV. Flavivirus susceptibility in *Aedes Aegypti*. Arch Med Res. 2002;33(4):379-88.
- 2 Simmons CP, Farrar JJ, Nguyen V. Dengue. N Engl J Med. 2012;366(15):1423-32.
3. WHO. Dengue fever and dengue haemorrhagic fever prevention and control. World Health Assembly Resolution WHA55. 17, adopted by the 55th World Health Assembly, 2002.
4. Jahan F. Dengue Fever (DF) in Pakistan. Asia Pac Fam Med. 2011;10(1):1.
5. AFP. Dengue fever infects over 12,000 in Pakistan. The Express Tribune. 2011, September.

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Received: May 28, 2014

Accepted: May 30, 2014