

WAKE-UP: DENGUE EPIDEMIC IS AT THE DOOR STEP

Habibullah Khan

Department of Medicine, Gomal Medical College, D.I.Khan, Pakistan

Dengue fever (DF) is an infectious disease caused by one of the four serotypes of Dengue virus.¹ It is transmitted by the mosquitoes *Aedes aegypti* and *Aedes albopictus*, which are found throughout the world.² It can present with a wide range of clinical manifestations, from a mild febrile illness to life-threatening dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS).^{2,3} Both viral and host factors are thought to contribute to the severity of manifestations in an individual patient.⁴ Infection with one serotype does not protect against the others, instead sequential infections put a person at greater risk of complications.^{2,6-8}

Dengue is endemic in many parts of the tropics and subtropics. It occurs usually during a season when *Aedes* mosquito populations are high, often at rainfall optimal for breeding. According to the World Health Organization (WHO), 50-100 million infections occur yearly, including 500,000 cases of DHF and 22,000 deaths.⁹⁻¹¹

Pakistan saw epidemic of dengue fever in 1994, 2006 and again in 2011.^{1,12} This time it struck mainly the Punjab province and caused significant morbidity and mortality. Teams of experts were called from Sri Lanka because they had the experience to control this potentially lethal disease successfully in the past. Unfortunately, all the efforts to control this disease were in vain and it was controlled by change of weather. With the onset of winter the disease prevalence dropped dramatically but probably only to reappear next year with more deadly consequences.

The Government of Punjab played a very enthusiastic role in controlling the disease but failed due to reasons beyond its control. The electronic media also played a pivotal role but at times created a lot of unnecessary fuss and havoc.

The Federal and Provincial governments need to sit together, join their heads and plan before the problem recurs in the years to come.

The major steps should be:

- Effective vector control using environmental management and chemical methods. The

sanitary system especially the drainage in the cities and towns to be improved.

- The electronic and print media should realize its responsibility to raise the level of awareness in the general public. The on-going public awareness campaign needs to be strengthened at all levels. However its activities need to be monitored by the Ministry of Health in future.
- Doctors in the primary health care setting have an opportunity not only to give supportive care to their patients but also educate them regarding the spread of Dengue fever and vector control. They should be properly organized and trained to identifying the sign of impending serious consequences of DF which needs referral to tertiary care centers.

It should be realized that only governments cannot handle this situation and a combined action by all the stake-holders including the Federal and Provincial governments, doctors and the public beforehand can avert the future epidemic. God forbid if we remained asleep like usual then we have to face even deadlier epidemic in the years to come. Do not forget that DF is strange. It has four serotypes and immunity to one does not protect a person from the others; rather it increases the chances of complications in the future.

REFERENCES

1. Khan E, Hasan R, Mehraj V, Nasir A, Siddiqui J, Hewson R. Co-circulations of two genotypes of dengue virus in 2006 out-break of dengue hemorrhagic fever in Karachi, Pakistan. *J Clin Virol* 2008;43:176-9.
2. Medline Plus. Dengue fever. 2011. <http://www.nlm.nih.gov/medlineplus/dengue.html>
3. Thein TL, Leo YS, Lee VJ, Sun Y, Lye DC. Validation of probability equation and decision tree in predicting subsequent dengue hemorrhagic fever in adult dengue inpatients in Singapore. *Am J Trop Med Hyg* 2011;85:942-5.
4. Jahan F. Dengue Fever (DF) in Pakistan. *Asia Pac Fam Med* 2011;10:1.

-
5. Jawad K A, Masood S, Tassawar H, Inam B, Waheeduz ZT. Outbreak of Dengue Hemorrhagic Fever in Karachi. *Pak Armed Forces Med J* 2001;51:94–8.
 6. Naseem S, Farheen A, Muhammad A, Fauzia R. Dengue fever outbreak in Karachi, 2005 — A clinical experience. *Infect Dis J* 2005;14: 115–7.
 7. Gibbons RV, Vaughn DW. Dengue: an escalating problem. *BMJ* 2002. 324: 1563-6.
 8. Guzman MG, Kouri G. Dengue: an update. *Lancet Infect Dis.* 2002;2:33–42.
 9. Almas A, Parkash O, Akhter J. Clinical factors associated with mortality in dengue infection at a tertiary care center. *Southeast Asian J Trop Med Public Health* 2010;41:333–40.
 10. CDC. Dengue fever. 2011. <http://www.cdc.gov/dengue/epidemiology/index.html>
 11. World Health Organization. Dengue fever. 2011. <http://www.who.int/csr/disease/dengue/impact/en/>
 12. Riaz MM, Mumtaz K, Khan MS, Patel J, Tariq M, Hilal H, et al. Outbreak of dengue fever in Karachi 2006: a clinical perspective. *J Pak Med Assoc.* 2009;59:339–44.