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Letter to the Editors

Apropos 'A review of dengue as an emerging disease in Pakistan'



To the Editor

We congratulate Professor Rasheed and colleagues¹ for their meticulous review of the recent emergence of dengue virus infection in different regions of Pakistan and support their views on strengthening of entomological surveys and public education for dengue control in Pakistan.

In our opinion, the general population in Pakistan should be educated about the basics of the mosquitoes responsible for causing dengue virus infection. The vector responsible for dengue fever, *Aedes aegypti* and *Aedes albopictus*, is a day-time biter but will also bite at night if there is sufficient artificial lighting. *A. aegypti* is particularly fond of ankles when searching for a good spot to bite a human.² *A. albopictus* is a very aggressive day-time biter, with peaks occurring during early morning or late afternoon. Both are container-inhabiting species which lay eggs in domestic and peridomestic clean water-containing receptacles. Generally, anti-mosquito measures are practised during the night when repellents, insecticides or mosquito nets are used. Even after such a nocturnal care-taking, people could still be exposed to bites from *Aedes* group of mosquitoes as they are mostly day-biters.

The public should be advised to wear full-length clothes to cover their arms and legs during day-time as well as in the evenings if they are out of their homes. It has been noticed that hospitals where dengue patients are being treated become the focal points for the spread of the disease among hospital staff and neighbouring population. Therefore, necessary precautions, such as the use of insecticide-treated bed nets, should be taken to avoid such situation.

Both the inter-city and intra-city spread of dengue virus in Pakistan¹ are linked with blood circulation of dengue virus in the initial phase of illness since every such case would be teeming with viral RNA and non-structural protein NS1 antigen. Later, the viral RNA and antigen would disappear with a coincident appearance of antibody, even though NS1 might be detectable in a few patients for a small number of days after defervescence.³ During that phase, if bitten by a mosquito of genus *Aedes*, circulating dengue virus would be picked up by mosquitoes, followed by amplification in mosquito tissues and a secondary dengue virus transmission. In all probability, the visiting couples from Karachi to villages of Basal and Thatta Khalil in the district

of Attock as well as the medical student who travelled from Lahore to Rawalpindi¹ were bitten by infected mosquitoes prior to their departure. They were viraemic before departure from Karachi or Lahore and were teeming with circulating viral RNA. Consequently, there was secondary virus spread from their bites by local *A. aegypti* mosquitoes.

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Competing interests

None declared.

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S.C. Arya*

N. Agarwal

Sant Parmanand Hospital, 18 Alipore Road, Delhi 110054, India

*Corresponding author. Tel.: +91 119810642269.

E-mail addresses: subhashbhapaji@gmail.com, subhashji@hotmail.com (S.C. Arya)

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