

## Deteriorating the Dengue Situation in Bangladesh

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Dengue, a mosquito-borne viral disease caused by four closely related serotypes (DEN-1, DEN-2, DEN-3, and DEN-4) of the RNA Flavivirus family, is transmitted to humans by infected *Aedes aegypti* mosquitoes.<sup>1</sup> In Bangladesh, the dengue situation has emerged as a severe public health concern in terms of morbidity and mortality. The situation is worsening progressively. Between January 1 and August 15, 2023, the Ministry of Health and Family Welfare reported a total of 89,875 individuals infected with dengue fever and 426 Dengue fever related deaths.<sup>2</sup> By July 18, 2023, the country had already documented 127 fatalities (73 females and 54 males) from this mosquito-borne disease, a staggering fivefold increase compared to the previous year (2022). Dengue has spread across 60 districts, and public health experts are concerned that the situation is growing more complex, posing a significant risk to a large population.<sup>3</sup>

Experts attribute the rising dengue cases in the country to climate change effects, intermittent rainfall, shifting weather patterns, and inadequate sanitation. Dengue infection often presents asymptotically, with symptoms manifesting in those affected between 4 to 7 days after being bitten. The infection is characterized by flu-like symptoms, such as sudden high fever occurring in distinct waves, pain behind the eyes, muscle and joint discomfort, severe headache, and a skin rash with red spots. Given the non-specific nature of dengue fever symptoms, laboratory confirmation of the infection is crucial. Various diagnostic methods, including complete blood counts, platelet counts, culture isolation, NS1 antigen demonstration, significant changes in IgG or IgM antibody titers to dengue virus antigens in paired serum samples, and detection of viral RNA through PCR, prove to be helpful.

Notably, the Government of Bangladesh's commendable initiative to regulate and limit testing prices is highly appreciated.

Currently, treatment target primarily involves managing the symptoms, as antiviral treatments are not available and reducing mortality. The Centers for Disease Control and Prevention (CDC) recommends dengue vaccination for children aged 9 to 16 years, but only for those previously infected with dengue and residing in dengue-prevalent areas, confirmed through laboratory testing. The principal strategy to control or prevent dengue virus transmission is to control the of vectors. This involves routine identification of vector breeding hotspots by generating house/container/breteau indices and applying suitable larvicides/insecticides. In addition personal protection measures like using window screens, long-sleeved clothing, repellents can help prevent transmission. Early detection dengue patients and ensuring treatment following national guidelines may significantly contribute to reducing mortality.

### References

1. Gubler DJ. Dengue, In T. P. Monath (ed.), *The arboviruses: epidemiology and ecology*, vol. II. CRC Press, Boca Raton, FL.1988; p. 223-260.
2. Management information system, Directorate General of Health Services (DGHS), Dengue Pressrelease, 2023: Aug 15. Page:1, Link; [https://old.dghs.gov.bd/images/docs/vpr/20230815\\_dengue\\_all.pdf](https://old.dghs.gov.bd/images/docs/vpr/20230815_dengue_all.pdf)
3. IFRC, Bangladesh Dengue Response Operation 2023 - DREF Operation (MDRBD031), Situation Report: 25 Jul 2023 ; link; <https://reliefweb.int/report/bangladesh/bangladesh-dengue-response-operation-2023-dref-operation-mdrbd031>

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