

A New Health Threat for Iran: Dengue Fever

Dengue fever is a potentially life-threatening tropical disease that causes an acute febrile illness that can range from asymptomatic disease to potentially life-threatening disease, which may lead to hemorrhagic shock and death in the most severe cases. Its transmission mostly depends on the presence of the virus and the disease-carrying mosquitoes *Aedes aegypti* and *Aedes albopictus*, which inhabit tropical climates.¹ This daily active mosquito inhabits solid waste material, especially those containing water, domestic and outdoor water containers, and any stagnant water. According to WHO reports, its incidence has risen significantly since 2000, and has been spread through over 80 countries in 2023. Dengue fever is now classified as an endemic disease in more than 100 countries across WHO regions.² The 2023 WHO Dengue fever distribution map revealed no case of Dengue fever in Iran, although countries with reported cases of this health-threatening disease have surrounded us.^{2, 3} The El'nino phenomenon might be the cause of the increase in the disease cases and its spread.² Our country has reported scattered cases of Dengue fever over the past ten years. However, a recent outbreak of Dengue fever in southern Iran has raised major concerns.⁴ Although most of these patients have traveled to endemic countries, southeastern Iran is at risk of being an endemic area of Dengue fever.⁵ According to recorded information and statistics from Iran's Health Ministry, there were 151 definite cases of Dengue fever within the last 4 months, between March 2024 and July 2024, with 12 cases being the result of endemic disease transmission (11 cases from Hormozgan province and one case from Sistan Balochistan). *Aedes* mosquito as a Dengue fever carrier has recently been discovered in six provinces of Iran, particularly in the South,⁵ and it should be noted that the presence of Dengue fever can lead to virus transmission to carrier mosquitoes via human-to-mosquito transmission. This kind of transmission occurred within 2 days before symptomatic disease. Thus, we are in critical danger of Dengue fever endemicity. On the other hand, its high morbidity and mortality place a heavy burden on the healthcare system.

There is an important question: what should we do? Prevention is the mainstay of infectious disease control. We must take prompt action to control this potential menace. Prevention and disease control strategies are divided into three major parts: human preventive strategies to protect against mosquito bites (this strategy requires education and communication to inform people); eliminating the disease vector, *Aedes* mosquito, and being prepared to treat and support patients. People can prevent mosquito bites by wearing clothes that cover most parts of their body surface, using window screens, mosquito repellents, and other protective measures. Insecticides should be used to cover, empty, and clean stagnant waters and water storage, as well as to dispose of solid waste properly. In terms of treatment, supportive care is the main therapy, which includes volume status management to prevent hypovolemia or volume overload, assessment of possible vasoconstrictor requirements, bleeding control and proper blood product administration, proper ventilatory support if necessary, and careful management of encephalopathy, hepatitis, and related conditions.^{6, 7} In conclusion, we must promptly control Dengue fever and its vector, the *Aedes* mosquito, to eliminate this critical menace with high potential morbidity and mortality.

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