EDITORIAL

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Dengue: A public health concern in Nepal

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Dengue is a viral infection caused by Dengue virus. It is transmitted through the bite of infected mosquitoes. Female *Aedes aegypti* and *Aedes albopictus* mosquitoes are the primary vector for this disease.[1] The mosquitoes flourish in urban environments where stagnant water creates ideal breeding sites for Aedes mosquitoes. Dengue falls among the most prevalent vector-borne diseases in low- and middle-income countries.

There are four serotypes of Dengue virus. Lifelong immunity to the particular serotype is probably conferred by infection with any one of these serotypes. A new serotype infection could cause serious illness.[2]

Dengue is a major economic and public health concern in Nepal and globally. The reported incidence of dengue is 5.2 million in 2019, which is dramatic as compared to the data of 2000. The actual numbers of dengue cases are under-reported because a vast majority of cases are asymptomatic or mildly symptomatic and self-managed.[1]

The first case of Dengue from Nepal was reported in 2004.[3] There was an endogenous outbreak in Chitwan district in 2006. Since then, the number of cases in Nepal has been continuously and alarmingly increasing. As compared to the outbreak in 2016, the reported incidence of dengue was 140 times higher in 2019. The disease has slowly expanded from lowlands to the middle mountain region of Nepal.[4] This increase in the incidence and geographical variation might be due to the climate change effect.[5] Initially, dengue was limited to the tropical and subtropical climates.

There is no licensed dengue vaccine available yet, but several vaccines are in development. The first-ever phase 3 clinical study for a dengue vaccine in India has begun. The Indian vaccine formulation's phase 1 and phase 2 clinical trials were completed in 2018–19 showing promising results.[6]

For now, the only practical methods for managing dengue infections are symptomatic treatment and vector control initiatives due to the lack of efficient vaccines and antiviral medications.[7] Timely identification of warning signs of severe dengue infection, and appropriate case management can reduce mortality from Dengue.

The national guidelines for the prevention, control, and management of dengue in Nepal were released by the government, with a focus on vector-control methods as the most effective way to stop outbreaks. Tackling the dengue

issue in Nepal demands a holistic strategy. It must incorporate epidemiological monitoring, climate factors, socio-economic considerations, and community involvement. Collaboration between government agencies, healthcare providers, and local communities is essential to create a strong framework for dengue prevention and control.

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