

EDITORIAL

Rapid Surge of Chikungunya in Pakistan Demands Urgent Action

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Chikungunya virus infection is a vector-borne disease that has emerged as a serious public health concern around the world over the past two decades. The disease is associated with a significant morbidity rate with an increased risk of lifelong impairment along with psychological and economic consequences. Although severe complications are uncommon, chikungunya virus disease (CHIKVD) causes debilitating and persistent joint pain, neurological symptoms, inflammation in the heart muscle, liver damage as well as multiple organ failure in severe cases, which can be life threatening mostly in infants and elderly population.¹ The first Chikungunya vaccine approved by the Food and Drug Administration (FDA) in 2023 is currently licensed in the United States, however, there is no vaccine available in the endemic countries.²

CHIKV was first identified in Pakistan in 1983 to be circulating in rodents with a limited number of human infections. Since 2015, outbreaks of CHIKV in human population have become more frequent primarily during dengue epidemics.³ The local transmission was confirmed by February 28, 2016 and according to National Institute of Health, Pakistan, a total of 8,521 laboratory confirmed cases were reported from December 2016 till March 2018, with Sindh and Balochistan accounting for the majority of reported cases.⁴ According to the European Centre for Disease Prevention and Control, as of November 30 2024, around 480,000 cases of CHIKVD have been reported worldwide, with over 200 deaths in 2024. Pakistan is among the 23 countries reporting the CHIKVD with approximately 5,726 cases confirmed during the latest outbreak in 2024.⁵

Pakistan being a subtropical country, is becoming more vulnerable to the transmission of chikungunya and other vector-borne diseases including dengue, malaria and leishmaniasis due to changes in the climate patterns such as longer summers, shorter milder winters, and an increased frequency of unpredictable and severe weather events. The CHIKVD appears to have overlapping symptoms (fever and severe joint pains) with other viral illnesses such as dengue, which often leads to misdiagnosis resulting in the mistreatment of both illnesses causing serious challenges for healthcare professionals. In addition, an underestimated disease burden is reported. The mosquito vectors responsible for Chikungunya virus transmission are *Aedes aegypti* and *Aedes albopictus*, species prevalent in Pakistan during and after the monsoon season and the same species also transmit dengue and Zika viruses.⁶ All of these factors including the upcoming monsoons are likely to contribute to the endemicity of the CHIKVD in Pakistan over the coming year.

In Pakistan, the overall impact of the CHIKVD is multifaceted with ambiguous consequences due to an underestimated disease burden. The increasing prevalence associated with Chikungunya alongside other vector-borne infections underscores an urgent need for further scientific exploration and public health interventions to alleviate the effects of this emerging infectious disease. The impact of Chikungunya on human health can be overwhelming, particularly in countries like Pakistan already burdened by dengue and malaria outbreaks. This emphasizes an immediate and rigorous strategy, including public health campaigns, to be prepared and implemented by the coordinated actions of various health departments including the Ministry of National Health Services Regulations and

Coordination (NHSR&C), National Institute of Health (NIH) Pakistan, Pakistan Meteorological Department (PMD) and other related divisions.

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