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REVIEWER'S REPORT

Manuscript No.: IJAR-50384

Date: 24-02-2025

Title: Epidemiology of Dengue and Chikungunya Infection in Bangalore, Karnataka

Recommendation:

- Accept as it is.....**YES**.....
- Accept after minor revision.....
- Accept after major revision
- Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality	√			
Techn. Quality		√		
Clarity		√		
Significance			√	

Reviewer's Name: Dr Aamina

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

The document “Epidemiology of Dengue and Chikungunya Infection in Bangalore, Karnataka – 2024” provides an **in-depth analysis of the prevalence, clinical manifestations, and diagnostic approaches to Dengue and Chikungunya infections** in the region. The study is **prospective in nature** and spans from **January 2024 to July 2024**, focusing on data collected from suspected patients attending a **private medical college and hospital in Bangalore, Karnataka**.

The **abstract** effectively outlines the **background, methodology, key findings, and conclusion**. It emphasizes the **public health importance of enhanced diagnostic facilities** in combating the increasing burden of Dengue. The study **analyzes 195 patient samples, with 12.3% testing positive for Dengue and 9.7% for Chikungunya**. The clinical evaluation highlights **varying manifestations of Dengue fever (DF), hemorrhagic symptoms, and Dengue Shock Syndrome (DSS)**, though **all affected patients recovered well**. The **conclusion** underscores the necessity of **advanced diagnostic laboratories and emergency preparedness** to reduce Dengue-related mortality in India.

The **introduction** situates **Dengue and Chikungunya** within the broader **epidemiological context**, discussing their **historical background, transmission dynamics, and endemicity in India**. The

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document incorporates **data from the Centers for Disease Control and Prevention (CDC)** and the **National Center for Vector Borne Disease Control (NCVBDC)** to highlight **global and national trends**. It acknowledges **the absence of specific antiviral treatments for Chikungunya**, the **limited efficacy of Dengue vaccines (such as TAK-003)**, and the **recent discovery of a fifth Dengue serotype (DEN-5)**.

The **discussion on molecular pathogenesis** explores **CHIKV RNA virus recognition mechanisms** involving **pattern recognition receptors (PRRs)**, **retinoic acid-inducible gene I (RIG-I)**, **toll-like receptors (TLRs)**, and **nuclear factor kappa-B (NF- κ B)**. This section integrates **immunological responses** and the **molecular basis of disease progression**, contributing to a **comprehensive understanding of virus-host interactions**.

Epidemiological data from **2019 to 2024** illustrate **the fluctuating trends of Dengue and Chikungunya infections in Karnataka**, with specific figures on **cases and mortality rates**. The study provides a **current status report on Dengue subtype circulation**, reflecting the **ongoing burden of these vector-borne diseases** in the region.

Overall, the document presents a **well-structured and informative analysis of Dengue and Chikungunya epidemiology in Bangalore**, offering **valuable insights into disease trends, clinical implications, and public health strategies**.
