Tracking dengue transmission: A spatial -temporal epidemiological analysis of dengue distribution in bentong over five years

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ABSTRACT

Introduction: Dengue poses a significant public health challenge in tropical regions like Bentong, Malaysia. Analyzing the spatial and temporal distribution of cases is crucial for guiding prevention strategies. This study aimed to characterize the epidemiology of dengue in Bentong from 2019 to 2023 by analyzing case distributions based on location, year, and demographic factors. **Methods:** The cases were geocoded, and maps were generated to investigate spatial and temporal patterns. Furthermore, the study analyzed annual incidence trends in terms of both space and time, and also conducted sociodemographic profiling of the cases. **Results:** A retrospective analysis of dengue surveillance data from the Pejabat Kesihatan Daerah (PKD) Bentong revealed 426 reported cases over the 5-year period, with varying annual incidences and spatial patterns. Certain areas consistently reported higher case numbers, with localized outbreaks occurring in specific communities during certain years. The majority of infections were among male Malays aged 18-40, with notable representation among private sector workers and students. **Conclusion:** This study highlights the importance of targeted prevention strategies based on epidemiological insights to optimize dengue control efforts in Bentong.

Keywords: Dengue Fever, Disease Outbreaks, Epidemiology, Descriptive, Geographical Information Systems, Risk Factors