

ABSTRAK

ANALISIS SPASIAL KEJADIAN DEMAM BERDARAH *DENGUE* BERDASARKAN SUHU, KELEMBAPAN, DAN CURAH HUJAN DI KOTA METRO PERIODE JANUARI-MEI TAHUN 2024

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Latar Belakang: Demam berdarah *dengue* merupakan salah satu penyakit infeksi dengan *incidence rate* yang terus mengalami peningkatan terutama pada daerah tropis dan subtropis seperti Indonesia, termasuk Kota Metro di Provinsi Lampung. Suhu, kelembapan, dan curah hujan diketahui sebagai faktor iklim yang paling berpengaruh terhadap persebaran penyakit ini. Penelitian ini bertujuan untuk mengetahui pola distribusi spasial kejadian Demam Berdarah *Dengue* (DBD) berdasarkan suhu, kelembapan, dan curah hujan di Kota Metro periode Januari-Mei tahun 2024.

Metode: Penelitian ini menggunakan analisis *Average Nearest Neighbour* dan *overlay* pada aplikasi berbasis Sistem Informasi Geografis (ArcGis). Data penderita DBD didapatkan dari Dinas Kesehatan Kota Metro, sementara data suhu, kelembapan, dan curah hujan melalui *website* data citra *open source*.

Hasil: Hasil analisis *Average Nearest Neighbour* kasus DBD di Kota Metro menunjukkan *Nearest Neighbor Ratio* sebesar 0,392353 (Januari); 0,766815 (Februari); 0,857750 (Maret); 0,771606 (April); 0,589998 (Mei); 0,564678 (Januari-Mei), mengindikasikan bahwa jarak antar kasus DBD lebih mengelompok daripada distribusi yang bersifat acak.

Simpulan: Pola distribusi kasus DBD di Kota Metro periode Januari sampai Mei tahun 2024 adalah *clustered* dan terdapat kecenderungan peningkatan jumlah kasus DBD pada suhu 20°C-30°C, indeks kelembapan *normalized difference moisture index* (NDMI) 0,2-0,4, dan curah hujan >300 mm/bulan.

Kata Kunci: demam berdarah *dengue*, suhu, kelembapan, curah hujan, spasial.

ABSTRACT

SPATIAL ANALYSIS OF *DENGUE* HEMORRHAGIC FEVER INCIDENCE BASED ON TEMPERATURE, HUMIDITY, AND RAINFALL IN METRO CITY FROM JANUARY TO MAY 2024

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Background: Dengue hemorrhagic fever remains a significant public health concern, with its incidence rate continuing to rise, particularly in tropical and subtropical regions such as Indonesia, including Metro City in Lampung Province. Among the various contributing factors, temperature, humidity, and rainfall are recognized as the most influential climatic variables affecting the transmission and spatial distribution of the disease. This study aims to identify the spatial distribution pattern of dengue hemorrhagic fever (DHF) cases based on temperature, humidity, and rainfall in Metro City from January to May 2024.

Methods: This study utilized Average Nearest Neighbour analysis and overlay techniques using a Geographic Information System (GIS)-based application (ArcGIS). DHF case data were sourced from the Health Departement of Metro City, while climatic variables (temperature, humidity, and rainfall) were obtained from open-access satellite data platforms.

Results: The results of the Average Nearest Neighbour analysis of DHF cases in Metro City showed Nearest Neighbor Ratios of 0.392353 (January), 0.766815 (February), 0.857750 (March), 0.771606 (April), 0.589998 (May), and 0.564678 (January–May), indicating that the spatial distribution of DHF cases was more clustered than would be expected in a random pattern.

Conclusion: The spatial distribution of DHF cases in Metro City from January to May 2024 exhibited a clustered pattern, with an increased number of cases observed at temperatures of 20°C–30°C, normalized difference moisture index (NDMI) values of 0.2–0.4, and rainfall exceeding 300 mm per month.

Keywords: dengue hemorrhagic fever, temperature, humidity, rainfall, spatial.