

## MELIOIDOSIS EPIDEMIOLOGY IN TEMERLOH, PAHANG (2019-2023): CLINICAL, SOCIODEMOGRAPHIC, AND ENVIRONMENTAL CORRELATIONS

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### ABSTRACT

*INTRODUCTION: Melioidosis, a severe endemic disease caused by Burkholderia pseudomallei (incubation period: 1-21 days), is prevalent in northern Australia and Southeast Asia, including Malaysia. It poses a significant healthcare burden, especially in cases requiring intensive care. Understanding local epidemiology and clinical data is crucial for identifying at-risk patients, especially in Temerloh, Pahang, where data is limited. OBJECTIVE: This study analyses the sociodemographic and clinical data of melioidosis cases, infection sources, intensive care unit (ICU) admission associations, and the relationship between case numbers and average monthly rainfall. METHODOLOGY: A retrospective study was conducted on 92 culture-confirmed melioidosis cases in Temerloh from 2019 to 2023. Descriptive statistics, logistic regression, and Spearman correlation analyses were performed using Stata 17.0. RESULTS: The average annual incidence of melioidosis was 52.7 per 100,000 people in Temerloh. The median age of cases was 52.0 (33.5-61.5) years, with the majority being Malay (88.0%) and males (71.7%). Most cases had at least one comorbid (83.7%), with 60.9% being diabetics. Twenty-two patients (23.9%) were admitted to ICU, and the case fatality ratio was 10.9%. Most patients (70.7%) regularly engaged in soil-related activities. Nearly half of the cases (n=45, 48.9%) were from Perak and Mentakab counties, with nearly three times the odds of ICU admission compared to other counties in Temerloh (OR=2.86, 95% CI 1.04–7.88). Patients with fever and respiratory symptoms had three times higher odds of requiring ICU care than those without these symptoms (OR=3.03, 95% CI 1.10–8.36). Over half of the cases (n=51, 55.4%) occurred during the Northeast Monsoon, demonstrating a significant moderate positive correlation with average monthly rainfall (rs= 0.5734, p<0.001). CONCLUSION: Comorbidities are common in melioidosis patients, but fever with respiratory symptoms indicates severe disease and ICU need. Enhanced seasonal surveillance and targeted public health measures during the monsoon are essential for managing and mitigating the disease's impact.*

Keywords: Melioidosis, Rainfall, Intensive care, Temerloh, Pahang

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