

INFRAESTRUTURA DE SANEAMENTO E ARBOVIROSES NO BRASIL

Uma Análise Epidemiológica Multidimensional

SANITATION INFRASTRUCTURE AND ARBOVIRUSES IN BRAZIL

A Multidimensional Epidemiological Analysis

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RESUMO

A presente análise investiga a relação entre infraestrutura de saneamento, especificamente abastecimento de água e manejo de resíduos sólidos, e a incidência de dengue e chikungunya nas 27 unidades federativas brasileiras, com base em dados oficiais de 2024 [1, 2] e em abordagem descritiva comparativa. Os resultados indicam padrões contraintuitivos: estados com melhores indicadores de saneamento apresentaram, em diversos casos, incidências mais elevadas das arboviroses analisadas. À luz da literatura, esse fenômeno é compatível com o caráter multifatorial e não linear da transmissão de arboviroses, influenciada por clima, mobilidade humana, urbanização, densidade vetorial e diferenças na sensibilidade dos sistemas de vigilância epidemiológica [3, 4, 5, 6, 7]. Conclui-se que interpretações unidimensionais não capturam adequadamente a complexidade epidemiológica observada. Recomenda-se, portanto, que análises sobre arboviroses incorporem fatores estruturais, como subnotificação, capacidade diagnóstica, mudanças nos sistemas de vigilância e variáveis ambientais, de modo a qualificar a interpretação dos indicadores e orientar políticas públicas mais integradas e territorialidades [3, 4, 5, 6, 7].

Palavras-chave: Infraestrutura de saneamento, Dengue, Chikungunya.

ABSTRACT

This analysis investigates the relationship between sanitation infrastructure, specifically water supply and solid waste management, and the incidence of dengue and chikungunya in the 27 Brazilian federative units, using official 2024 data [1, 2] and a descriptive-comparative approach. The results indicate counterintuitive patterns: states with better sanitation indicators showed, in several cases, higher incidence of the arboviruses analyzed. Based on the literature, this phenomenon is compatible with the multifactorial and nonlinear nature of arbovirus transmission, shaped by climate, human mobility, urbanization, vector density and differences in the sensitivity of epidemiological surveillance systems [3, 4, 5, 6, 7]. The study concludes that unidimensional interpretations do not adequately capture the observed epidemiological complexity. Therefore, analyses of arboviruses should incorporate structural factors such as underreporting, diagnostic capacity, surveillance-system changes and environmental variables, in order to improve interpretation of indicators and support more integrated and territorialized public policies [3, 4, 5, 6, 7].

Keywords: Sanitation infrastructure, Dengue, Chikungunya.

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