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Headache as a clinical manifestation of bacterial meningitis: epidemiological profile of hospitalizations and deaths in children and adolescents in Brazil (2016–2025)

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Introduction
Bacterial meningitis is an acute infection of the meninges associated with high morbidity and mortality, especially in children and adolescents. In this context, headache stands out as one of the main clinical manifestations of the disease, frequently associated with fever, vomiting, and neck stiffness, representing an important warning sign for diagnostic suspicion and immediate medical attention. Thus, understanding the epidemiological profile of bacterial meningitis is essential, given the relevance of headache as a clinical marker of meningeal involvement.

Objective
To analyze the epidemiological profile of hospitalizations and deaths due to bacterial meningitis in Brazil, emphasizing the relevance of headache in the clinical presentation of the disease.

Methods
An epidemiological, descriptive, retrospective, and quantitative study was conducted using data from the Hospital Information System of the Unified Health System (SIH/SUS). The category "Bacterial meningitis, not elsewhere classified" was selected from the ICD-10 Morbidity List. The study population comprised children and adolescents aged 0 to 19 years diagnosed with bacterial meningitis in Brazil between January 2016 and December 2025. The variables analyzed were number of hospitalizations, deaths, sex, type of admission, average length of hospital stay, and regional distribution.

Results
Between 2016 and 2025, 18,616 hospitalizations for bacterial meningitis in children and adolescents were recorded in Brazil. The Southeast region presented the highest number of cases, with 7,943 (42.67%) hospitalizations, followed by the Northeast region, with 4,160 (22.34%). The lowest quantity occurred in the Central-West, with 1,287 (6.91%) records. A predominance of urgent admissions was observed, corresponding to 18,039 (96.89%) cases, consistent with the acute evolution of the disease, frequently associated with headache. There was a predominance of the male sex, with 10,936 (58.74%) hospitalizations, while the female sex presented 7,680 (41.26%) records. The average length of hospital stay was 10.4 days. During the analyzed period, 823 deaths occurred, corresponding to a mortality rate of 4.42%, reinforcing the high clinical severity of the disease.

Conclusion
A high burden of hospitalizations and deaths due to bacterial meningitis in children and adolescents in Brazil was evidenced, with a predominance in the male sex and a higher concentration of cases in the Southeast region. The high frequency of urgent admissions demonstrates the acute evolution of the disease, in which headache stands out as an important warning sign for early diagnostic suspicion. Thus, the importance of prompt symptom identification, vaccination, and expansion of access to healthcare services is reinforced, aiming to reduce complications, hospitalizations, and deaths.

Keywords:
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