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Epidemiological and financial impact of headache hospitalizations: a decennial analysis in Recife

Arthur Gabriel Alves Soares[1], Maria Luiza Fragoso Pereira Neta[2], Matheus Fausto Barbosa Gonçalves[2], Ana Clara Sobreira Moura[2], Maria Thereza Corrêa Gondim Bezerra Rodrigues[2], Emilly Maria Soares da Silva[3], Grazielly Rodrigues Torres[2], Victor Matheus Soares da Silva[4]

[1]University of Pernambuco, Recife, Pernambuco, Brazil
[2]Afya School of Medical Sciences of Jaboatão dos Guararapes, Jaboatão dos Guararapes, Pernambuco, Brazil
[3]Olinda School of Medicine, Olinda, Pernambuco, Brazil
[4]Maurício de Nassau University Center, Recife, Pernambuco, Brazil

Arthur Gabriel Alves Soares
arthur.soares@upe.br

Introduction
Headaches are among the most prevalent and disabling neurological conditions worldwide, generating a significant clinical, social, and economic impact. In addition to severely compromising quality of life, headache crises are associated with high demand for emergency services and hospitalization, resulting in substantial costs for the Unified Health System (SUS). In this context, the epidemiological analysis of admissions contributes to public health policy planning and to the strengthening of prevention and management strategies within the healthcare network.

Objective
To analyze the temporal profile of hospitalizations for headache and their financial impact in the municipality of Recife-PE between 2015 and 2025.

Methods
A population-based, descriptive, and retrospective epidemiological study was conducted using microdata from the SUS Hospital Information System (SIH/SUS), obtained via DATASUS. Registries were isolated based on the patient's municipality of residence and filtered by primary diagnoses structured under Chapter VI of the ICD-10, specifically targeting codes for migraine and other headache syndromes (G43-G44). The variables analyzed included absolute annual volume of hospitalizations, total hospital costs, and the mean cost per admission.

Results
A total of 2,014 hospitalizations for headache were recorded in Recife-PE during the studied period. The highest volume occurred in the 2016-2017 biennium, peaking at 333 registries in 2017. After 2018, a general downward trend in hospitalizations was observed, with a sharp decline in 2020 during the COVID-19 pandemic, when 101 admissions were recorded. Subsequent years showed a partial recovery of the indicators, followed by a new reduction up to 2025 (77 cases). The total accumulated cost was BRL 1,367,502.70. The highest annual expenditure occurred in 2018 (BRL 219,625.68), while the highest mean cost per patient was observed in 2021, reaching BRL 931.44 per admission, highlighting an increase in clinical complexity post-pandemic.

Conclusion
Hospitalizations for headache maintained a relevant healthcare and economic impact in Recife-PE throughout the decade. Although the general trend indicates a reduction in hospitalizations across the historical series, individual costs for severe cases remain high. These findings reinforce the need to optimize early diagnosis and prophylactic management within primary care, aiming to curb avoidable hospitalizations and ensure efficiency in the allocation of public resources.

Keywords:
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Hospitalization
Hospital costs
Public health administration

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