▪ Headache Medicine 2026, Supplement ▪ p-ISSN 2178-7468, e-ISSN 2763-6178

Headache Medicine

ID: 384

Temporal trend of hospitalizations for migraine and other cephalic pain syndromes in northeastern Brazil: analysis of hospitalization patterns before, during, and after the COVID-19 pandemic between 2015 and 2025

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Introduction
Migraine is one of the most prevalent and disabling neurological diseases in the world, representing a significant cause of morbidity and healthcare resource utilization. The COVID-19 pandemic brought about profound changes in the dynamics of hospital services, potentially impacting hospitalization patterns for non-infectious conditions. Therefore, the analysis of the temporal trend of hospitalizations for migraine and other cephalic pain syndromes may contribute to understanding the indirect effects of the pandemic on neurological care in Northeastern Brazil.

Objective
To analyze the temporal trend of hospitalizations for migraine and other cephalic pain syndromes in Northeastern Brazil between 2015 and 2025, with emphasis on hospitalization patterns during and after the COVID-19 pandemic.

Methods
An ecological, retrospective, and descriptive study, conducted using data from the Hospital Information System of the SUS (SIH/SUS), obtained from DATASUS. Hospitalizations for migraine and other cephalic pain syndromes in Northeastern Brazil between 2015 and 2025 were analyzed. Data were subjected to descriptive analysis, with assessment of temporal trends and percentage variation across the pre-pandemic, pandemic, and post-pandemic periods.

Results
A total of 32,993 hospitalizations for migraine and other cephalic pain syndromes were recorded in Northeastern Brazil between 2015 and 2025. An increasing trend in hospitalizations was observed between 2015 and 2019, with an 86.3% rise over this period, growing from 1,925 to 3,586 admissions, with an annual mean of 2,811.2 cases. In 2020, a 30.7% decrease was recorded, with 2,485 hospitalizations compared to the 3,586 of the previous year. In 2021, there were 2,927 hospitalizations, a figure 18.4% lower than that observed in 2019. The annual mean for 2020 and 2021 was 2,706.0 cases, representing a 3.7% reduction compared to the mean observed between 2015 and 2019. From 2022 onward, a recovery in hospitalizations was observed, with 3,459 admissions, followed by 3,431 in 2023, 3,329 in 2024, and 3,306 in 2025. The annual mean between 2022 and 2025 was 3,381.3 hospitalizations, corresponding to a 25.0% increase relative to the mean recorded in 2020 and 2021. Despite the recovery following the pandemic period, the number of hospitalizations in 2025 remained 7.8% below the peak recorded in 2019.

Conclusion
An interruption of the increasing trend in hospitalizations for migraine and other cephalic pain syndromes was observed during the pandemic period, followed by a gradual recovery from 2022 onward, although the figures recorded in 2025 remain below the peak observed in 2019. These findings suggest that the COVID-19 pandemic context was associated with temporary changes in hospitalization patterns for these conditions in Northeastern Brazil, highlighting possible indirect repercussions on access to and utilization of healthcare services.

Keywords:
Headache
Hospitalization
Brazil
COVID-19
Descriptive epidemiology

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