



## Hospital admissions for migraine and other cephalgic syndrome pain and socioeconomic indices in Brazil

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### Introduction

Migraine is a neurological condition characterized by recurrent episodes of intense headache, often accompanied by nausea, vomiting, and hypersensitivity to sensory stimuli such as light and sound. This condition affects millions of individuals worldwide, exerting a substantial impact on the quality of life and functional capacity of those affected.

### Objective

To investigate the correlation between hospitalization rates for headaches and socioeconomic indicators (SI) in Brazil.

### Methods

This retrospective study employed a quantitative approach using data from the Hospital Admission System (SIH) of DATASUS, in accordance with the International Classification of Diseases (ICD-10), and from the Atlas of Human Development (ADH) in Brazil, from 2016 to 2021. The average hospitalization rate for headaches, for each federative unit, was calculated from the annual hospitalization rates (hospitalization / resident population \* 100,000). The Human Development Index (HDI) and its sub-indices (education, longevity, and income) were analyzed. Through simple linear regression with a 95% confidence interval, Pearson's coefficient ( $r$ ) was obtained to correlate the average hospitalization rate and socioeconomic indicators.

### Results

A total of 58,601 hospitalizations were identified, with 2019 being the year with the highest number of hospitalizations (12,120). Statistically significant ( $p < 0.05$ ) and positive ( $r > 0$ ) correlations were observed between the hospitalization rate for headaches and higher HDI ( $r = 0.26$ ), HDI-education ( $r = 0.33$ ), and HDI-longevity ( $r = 0.18$ ). Only one of the indices, HDI-income, did not show a significant correlation. The highest average hospitalization rate was recorded in the state of Paraná (15.34), while the lowest average was observed in Rio Grande do Norte (0.34).

### Conclusion

As the level of human development, measured by access to healthcare, education, and income distribution, increases, so does the impact on the total number of hospitalizations. This is due to factors associated with regions with high human development, such as early screening, access to primary care, rigorous reporting, and conditions typical of industrialization, as well as occupational exposure to carcinogenic agents, which may contribute to these findings.