Headache Medicine

An analysis on the impact of gender and race in hospitalizations due to headaches in the northeast region of Brazil

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Introduction

The identification of heterogeneity in a population and its influence on epidemiological patterns is integral for the establishment of health care strategies. Among the factors of influence in clinical headaches, gender is one of the most recognized by literature, with the occurrence of headaches in men:women being between 1:2 and 1:3, with greater effects of hormonal influence. Another factor that requires further investigation on Brazil's epidemiology on headaches is the impact of ethnicity. According to the IBGE census, 42.8% of brazilians self-identify as white, 45.3% as biracial and 10.6% as black. The northeast region has the biggest proportion of non-white population in the country, with 63.1% identifying as biracial, 11.4% self-declared as black, 25.5% as white, being an area propitious for analysis.

Objective

To analyze and compare the influence of gender and race on the rate of hospitalizations due to cephalic algies in the northeast of Brazil.

Methods

Using the available data of the System's Information of Aggravation in the Notification of Diseases (SINAN) constructed by the Ministry of Health, available on the DataSUS platform, it was made an analysis of hospitalizations due to migraines and cephalic algies on the northeast region between 2012 and 2023, separately considering age, gender and race to determine patterns of epidemiologic relevance. For statistical analysis, the Google Sheets algorithm was used.

Results

Among all samples collected, there were a total of 28.674 related hospitalizations due to migraines and cephalic algies in the northeast region between 2013 and 2023. Overall, there was a pattern of increase of occurrences between ages 7 to 49, following decrease in later years. There weren't enough native indigenous patients to allow analysis. Women composed the majority of registered hospitalizations, in a 77% higher rate than men, totalizing 18.154 cases (63.3% of all hospitalizations). Biracial women expressed the majority of the sample, with 11.985 (66% of all women) in every age group. There were also 4020 (22.1%) non identified, 1101 (6%) white women, 290 (1.5%) black women and 743(4%) asian women hospitalized. The age range of higher concentration of cases was in ages 20 to 29 with 3606 cases (19.8% of the total of women), from 30 to 39 with 3550 (19.5%) cases, and from 40 to 49 with 2929 (16.1%). The total number of men's hospitalizations in the same criteria was 10.251(36.7% of all hospitalizations). Men's most significant age ranges were ages 20 to 29, with 1478 (14.4%) cases; ages 30 to 39, with 1.699 (16.5%) cases; ages 40 to 49 with 1.613 (15.7%) cases. This distribution was heavily influenced by the hospitalizations of biracial men, who composed 7.128 (69.5%) of male patients. Of the remaining male patients, 553 were white (5.3%), 189 (1.8%) were black and 344 (3.3%) were asian, and 2.030 (19.8%) weren't identified.

Conclusion

The group most prevalent in the quantity of hospitalizations were biracial women, followed by biracial men. Overall, there were consistently more women than men compared to their respective ethnic group, but results show that despite women presenting a greater biological propensity to cephalgia according to literature, biracial men are more affected than white women and less than biracial women. While a higher percentage of the population in the northeast declares themselves as biracial rather than white or black, the diffe-ring rates of hospitalizations between biracial patients and other ethnicities is highly disproportionate to the population distribution, regardless of gender, indicating a deep influence of race. That can be connected to both genetic and socioeconomic factors, which highlights the importance of further studies to analyze their effects on the health of biracial and black people in Brazil. This study was limited by the data available on DataSUS and the uneven criteria of ethnic self-identification among the population.

Keywords: Headaches; Northeast; Ethnic disparities; Gender Disparities