



## Hospital admission of patients treated in emergency with a diagnosis of headache

Bruno Felipe Novaes de Souza<sup>1</sup>; Claudia Cristina de Lira Santana<sup>1</sup>; Carla Bianca Alves Leite Santos<sup>1</sup>;  
Juliana Ramos de Andrade<sup>1</sup>; Juliana Miranda D'assunção da Fonseca<sup>2</sup>; Fernando José Barbosa da Cruz<sup>2</sup>;  
Marcelo Moraes Valenca<sup>1</sup>

1. Universidade Federal de Pernambuco, Recife - PE - Brazil;
2. Complexo Hospitalar Unimed Recife, Recife - PE - Brazil.

**Categoria:** Epidemiologia, Desfechos e Impacto das Cefaleias

### Introduction

Headache symptoms represent one of the most frequent reasons for emergency department visits worldwide. Primary headaches are autonomous headaches, while secondary headaches are caused by an underlying medical condition. Difficulty in recognizing a secondary headache can result in detrimental health outcomes, such as permanent neurological deficits, loss of vision, and even death. Therefore, it is imperative that in the emergency department, patients undergoing a thorough physical examination when presenting with a headache as their main complaint, allowing for the determination of any associated risks in the evaluation, justifying the need for hospitalization for further investigation or therapeutic management.

### Objective

To determine the hospitalization conversion rate among patients treated with a diagnosis of headache in an emergency department.

### Methods

This is a cross-sectional study, utilizing secondary data sources extracted from the Electronic Patient Record through a hospital tracking program based on Business Intelligence. The research was conducted at a private hospital located in the city of Recife, Pernambuco, Brazil, from January to June 2023. All emergency room visits that resulted in hospitalization were evaluated, with patients transferred to other services being excluded. Red flags based on the SNNCOOP10 list, justifying hospitalization for clinical investigation, were analyzed. Data were stored in an Excel spreadsheet, and variables were analyzed using simple descriptive statistics.

### Results

A total of 49,104 patients were treated in the emergency department. Among these, 2,304 (4.7%) received a medical diagnosis of headache. The hospitalization conversion rate was 4.2% (n=98). Among the hospitalized patients, the majority were female (75.5%; n=74), with an average age of 43 years. The length of stay in the emergency department ranged from 2 to 20 hours, with an average of 7 hours. In terms of risk classification, following the Manchester Protocol, the majority (57.1%; n=56) of patients who were hospitalized were considered "low urgency." The main red flags identified were "new headache in patients over 50 years of age, pregnant, or postpartum," "headache triggered by cough, physical exercise or sexual activity" and "change in pattern or emergence of new headache in patients with migraines." There was an average of 1.3 imaging tests per patient upon admission, with the most prevalent being cranial computed tomography (53.5%; n=68), cranial magnetic resonance imaging (9.4%; n=12), and cranial magnetic resonance angiography (8.6%; n=11). The length of hospital stay ranged from 1 to 48 days, with an average of 6 days and the main diagnosis at discharge was status migrainosus.

### Conclusion

The group that transitioned from the emergency department to hospitalization consisted of 98 cases, predominantly adult women, representing a conversion rate of 4.2%. The average length of hospital stay was 6 days. Patients with longer hospital stays presented with secondary headaches due to meningitis (n=2), transient ischemic attack (n=2), and intracranial expansive lesion (n=1).

**Keywords:** Headache; Headache Disorders; Hospitalization.