

## EPIDEMIOLOGY OF LOWER LIMB AMPUTATIONS DUE TO MALIGNANT BONE NEOPLASMS IN BRAZIL

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**Introduction:** Primary malignant bone tumors (MBTs) represent about 3% to 5% of cancers in children and less than 1% in adults. Osteosarcoma is the most common, followed by Ewing's sarcoma in children and young adults, and chondrosarcoma in adults. Advances in neoadjuvant chemotherapy and limb-sparing resection techniques have reduced amputations. However, they are still indicated in specific cases, such as unresectable tumors, neurovascular involvement, pathological fractures with contamination, or local recurrence. **Objective:** To analyze, during the period from 2014 to 2024, the epidemiological profile of lower limb amputations due to malignant bone neoplasms in Brazil. **Methods:** This is a retrospective, quantitative, and documentary epidemiological study, based on the years 2014 to 2024. The data analyzed came from the System of the Unified Health System (SIH/SUS), provided by the Department of Informatics of the Unified Health System (DataSUS). The variables considered were the number of hospitalizations, type of care (elective/emergency), number of deaths, and the year of the procedures. **Results:** In the period from 2014 to 2024, 5,145,145 hospitalizations for lower limb amputations due to malignant bone neoplasms were recorded in Brazil, of which 3,442 (66%) occurred electively and 1,703 (33%) as emergencies. During the period, there was a 41% increase in the number of annual procedures, from 387 to 541. The Southeast region had the highest volume of cases, totaling 2,463 hospitalizations (49%), followed by the South with 950 hospitalizations (18.5%) and the Northeast with 788 hospitalizations (15%). The lowest rates were observed in the North with 566 hospitalizations (11%) and the Midwest, with 378 hospitalizations (7%). Despite registering a lower absolute number, the North showed the highest proportional growth, with a 72% increase, going from 40 to 69 annual procedures. The Southeast maintained the lead in absolute volume, with a 43% increase (from 182 to 261 procedures). The smallest percentage variation was seen in the Midwest, with a 32% increase, going from 28 to 37 procedures per year. Hospital mortality associated with the procedures totaled 126 deaths (2% of total hospitalizations). The Southeast had the highest absolute number of deaths, totaling 60 cases, while the Midwest had the lowest, with 6 records. **Conclusion:** The high incidence of emergency hospitalizations reveals inefficiency in the early detection of MBTs, possibly due to the weakening of Primary

Health Care and disinformation due to the socioeconomic vulnerability of the Brazilian population. The largest increase in hospitalizations, occurring in the Southeast region, is possibly related to the region's higher population density and greater investment in Primary Health Units; the first being supported by the higher proportional increase in hospitalizations in the North region, which has the lowest population density in Brazil, and the second, by greater investment in the Southeast's Primary Health Units. The hospital mortality rate was relatively low, highlighting the prognostic quality of amputation as a treatment for the disease.

**Keywords:** Disarticulation; oncology; malignant bone tumor.