

<https://doi.org/10.29289/25945394V36S11026>

1026 – Spatiotemporal analysis of mortality from malignant neoplasm of the breast in Brazil (2001–2021)

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Introduction: Breast cancer remains a public health challenge in Brazil, requiring detailed geographical and epidemiological monitoring to guide health policies. This study aims to analyze the spatial distribution and epidemiological profile of mortality from malignant breast neoplasm in Brazilian municipalities between 2001–2021.

Methods: An epidemiological study was conducted using death data from the Mortality Information System (SIM/DATASUS) and population data from IBGE (ICD-10: C50). Crude and standardized mortality rates were calculated for all 5,570 municipalities. Temporal analysis was performed using the Joinpoint software. Spatial analysis, including the creation of thematic maps smoothed by the local empirical Bayesian method and the identification of clusters through Global and Local Moran's Indices, was conducted using GeoDa 1.22.

Results: Between 2001–2021, a total of 283,196 deaths from malignant breast neoplasm were registered in Brazil. The highest mortality rate was found in individuals between 50–59 years old (24.04%), followed by the 60–69 age group (21.45%). There was a predominance of the female sex, representing 98.91% of the cases. Most victims were white (61.09%) and married (39.03%). There is a spatial dispersion of mortality from malignant breast neoplasm in Brazil, with the South and Southeast regions identified as the main incidence hotspots, along with some areas in the Northeast and Central-West. The five municipalities with the highest mortality rates were São João do Polêsine, RS (41.43/100,000 inhab.), Santa Tereza, RS (38.75/100,000 inhab.), Guabiju, RS (36.38/100,000 inhab.), Santa Mercedes, SP (36.24/100,000 inhab.), and Queluzito, MG (35.95/100,000 inhab.).

Conclusion: High-mortality municipalities and significant spatial clusters were identified, primarily in the South and Southeast. These findings highlight the need for regionally tailored public health strategies that consider local socio-epidemiological particularities to reduce breast cancer mortality in Brazil.

Ethics: Public data.

Keywords: spatio-temporal analysis; breast neoplasms; mortality registries; Epidemiology.