

## Ecological Analysis of the Detection of Suspected Mammographic Lesions in Pará (2020–2024)

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**Introduction:** Breast cancer is the most common type among women, with projections indicating a significant increase by 2045. In Brazil, breast cancer leads the statistics in all regions of the country. The mortality from this disease is also significant. Mammography is the main method for early detection due to its imaging accuracy.

**Objectives:** To analyze the evolution of breast cancer in the state of Pará based on secondary data, considering the variables of age group, ethnicity, and BI-RADS classification according to geographic region. **Methods:** This is an ecological and descriptive study, with a quantitative approach, based on freely accessible secondary data. The information was obtained from DATASUS, using the Cancer Information System (Siscan), in the “Mammography - By place of residence” tab. The geographical scope was the state of Pará, considering the years 2020 to 2024. The measure analyzed was “Mammography - Cancer Lesion Diagnosis”. Variables analyzed included age group, ethnicity/skin color, and BI-RADS classification. **Results:** Between 2020 and 2024, 80 cases of suspected breast cancer lesions diagnosed by mammography were recorded in the state of Pará, according to SISCAN data. These 80 cases represent the total number of mammographic examinations with suspected lesions, which may include multiple exams performed by the same individual. The distribution by race/color revealed among Asian women (29 cases; 36.3%), followed by black women (22 cases; 27.5%), white women (13 cases; 16.3%), brown women (10 cases; 12.5%) and women with unknown race/color (6 cases; 7.5%). The year 2024 had the highest number of records (26 cases), notable among Asian women (15 cases) and brown women (8 cases), after three consecutive years without records in the latter category. In 2023, the highest number of cases was observed among black women (8 cases). Records without information on race/color occurred only until 2022, indicating a possible improvement in the quality of data completion from 2023 onwards. The lowest number of cases was observed in 2021 (11 cases). These findings highlight racial disparities in the detection of suspicious mammographic lesions. Regarding the BI-RADS classification, most cases were categorized as BI-RADS 6 (confirmed malignancy), representing 37 cases

(46.25%), with emphasis on the years 2024 (13 cases) and 2022 (8 cases). Followed by BI-RADS 1 (normal finding), with 18 cases (22.5%), and BI-RADS 2 (benign finding), with 11 cases (13.75%). The BI-RADS 0 category, which indicates an inconclusive examination and the need for further evaluation, was reported in 5 cases (6.25%), underscoring the necessity for follow-up in such situations. Intermediate risk categories — BI-RADS 3 (1 case; 1.25%), BI-RADS 4 (4 cases; 5%), and BI-RADS 5 (4 cases; 5%) — were less frequently observed, with irregular distribution over the years.

**Conclusion:** The study highlights significant racial and temporal disparities in breast cancer detection in the state of Pará. However, the limited number of cases (n=80) should be considered a limitation when interpreting these results. These findings are highly relevant to oncology, as they underscore the need for public policies that ensure equitable access to early diagnosis and information, especially for vulnerable populations.

**Keywords:** Lesions; Breast cancer; Analysis