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1048 – Changes in the diagnostic pattern of breast cancer in the Brazilian Public Health System in Minas Gerais: analysis of the transition from surgical biopsy to core biopsy (2020–2025)

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Introduction: The diagnosis of breast cancer requires histopathological confirmation, and the core needle biopsy is the gold-standard method due to its precision and lower invasiveness. This study analyzes the transition from surgical biopsy to core biopsy in the Brazilian Public Health System (SUS) in Minas Gerais, in addition to investigating differences in its implementation among health macroregions.

Methods: An ecological, cross-sectional, and retrospective study using data from SIA/SUS (TABNET/DATASUS). The population included breast diagnostic procedures: core needle biopsy and breast nodule biopsy/excision. The analyzed outcome was the core biopsy rate (percentage of the total procedures). The variables included health macroregion, time period, and approved quantity. For statistical analysis, linear regression (for temporal trends) and the Kruskal-Wallis test (for regional comparison) were used, considering $p < 0.05$. The study was exempt from Research Ethics Committee approval (CNS Resolution No. 510/2016).

Results: The analysis revealed 42,305 core biopsies and 3,858 surgical biopsies between 2020 and 2025. An expressive growth of 143% in punctures was observed, jumping from 3,960 in the base year (2020) to 9,627 at the end of the study (2025). The percutaneous route was consolidated, with its prevalence rising from 44.29% in 2020 to 89.97% in 2025. Linear regression confirmed this strong upward trend (an increment of 12.2% per year; $p = 0.029$). In the spatial analysis, the Kruskal-Wallis test evidenced a profound geographic disparity in access ($p < 0.001$). The Central Macroregion concentrated the largest volume, maintaining 86.2% of the percutaneous route. The Northwest Macroregion demonstrated strong modernization, jumping to 68%. In contrast, the South Triangle region presented severe technological stagnation, reaching only 42.2% of core biopsy usage in 2025.

Conclusion: The SUS in Minas Gerais showed expressive modernization and adherence to the gold-standard percutaneous breast diagnosis over the last five years. However, the study statistically proves the existence of disparities and healthcare gaps.

Ethics: Public data.

Keywords: biopsy; needle; breast neoplasms; Health Services Research.