

<https://doi.org/10.29289/259453942024V34S1049>

Cancer health disparities among patients with estrogen-receptor-positive invasive breast carcinoma undergoing adjuvant endocrine therapy: impact of insurance coverage

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Objective: Challenges in social dynamics and disparities in healthcare persist within the context of cancer care in Brazil, and there is a gap regarding access to optimal care between patients in the public and private health systems. The objective of this study was to describe patients' characteristics at diagnosis and patterns of treatment received and to evaluate diagnosis-to-treatment interval and their association with health insurance coverage. **Methodology:** We performed a real-world data analysis among women with a history of early-stage ER+ invasive carcinoma of the breast on adjuvant endocrine therapy for at least 6 months in 15 centers of five different Brazilian regions. Data collection was done with the RedCap software. Analyses were performed in SAS 9.4. **Results:** From June 2021 to March 2024, 774 patients were included. The mean age was 56.8 years; 52.2% were publicly insured. Treatment at public institutions was significantly associated with more premenopausal patients (47.6% vs. 29.2%, $p < 0.0001$), living without a partner (46.8% vs. 34.7%, $p = 0.001$), lower educational level (46.1% vs. 6.8%, $p < 0.0001$), stage III tumors (29.1% vs. 13.5%, $p < 0.0001$), mastectomy (35.0% vs. 29.8%, $p = 0.001$), axillary dissection (40.6% vs. 18.1%, $p < 0.0001$), chemotherapy (72.7% vs. 58.5%, $p < 0.0001$), radiotherapy (87.2% vs. 78.7%, $p = 0.003$), lower use of ovarian function suppression plus ET (4.2% vs. 18.8%, $p < 0.0001$), lower use of CDK4/6 inhibitors (0.6% vs. 2.7%, $p = 0.02$), and higher use of tamoxifen (53.8% vs. 29.4%, $p < 0.0001$). The diagnosis-to-treatment interval was double for women treated in the public vs the private system (94 vs. 42 days, $p < 0.0001$). **Conclusion:** Patients with public health coverage were diagnosed with later stages and received more local treatment and less intense and optimal endocrine therapy when compared with privately insured patients. Treatment initiation intervals exceeding the recommended 60-day limit were observed for patients receiving treatment in the public service, despite legal restrictions.

Keywords: breast neoplasms; antineoplastic hormonal agents; healthcare disparities; treatment delay; health insurance.