

<https://doi.org/10.29289/259453942022V32S2021>

# DETERMINANTS OF SURVIVAL ON BRAZILIAN PATIENTS WITH BREAST CANCER IN PUBLIC AND PRIVATE PRACTICE

Ridania de Oliveira Frederice<sup>1</sup>, Alan Andresson Lima Pereira<sup>1</sup>, Felipe Eduardo Martins de Andrade<sup>1</sup>, Samir Abdallah Hanna<sup>1</sup>, Heloisa de Andrade Carvalho<sup>1</sup>, Gustavo Nader Marta<sup>1</sup>

<sup>1</sup>Hospital Sírio Libanês, Instituto de Ensino e Pesquisa – São Paulo (SP), Brazil.

**Objective:** The Brazilian health system can be divided into public and private sectors. In the public sector, insurance is provided by the state to all Brazilian citizens (municipal, state, and federal levels). The private sector is comprised of the private health insurance area, with various schemes of health plans or with out-of-pocket expenses. This study proposed to evaluate the breast cancer population characteristics and treatments according to public and private health care systems. **Methods:** This retrospective cohort study included patients diagnosed with invasive breast cancer, with health insurance information, between January 2000 and June 2020, from the Fundação Oncocentro de São Paulo database. Patients were described according to age, gender, level of education, histology of neoplasm, stage at diagnosis, and type of treatment. Categorical variables are described as percentages and frequencies. The association between demographic and treatment factors and overall survival (OS) was evaluated using a Cox proportional hazard (PH) regression model while accounting for different lengths of participant follow-up. Uni- and multivariable Cox PH models were used to estimate hazard ratios with corresponding 95% confidence intervals for OS. The Kaplan-Meier (KM) curves were used to visually display survival curves, and the log-rank test was used to compare the estimated KM curves. **Results:** A total of 65,543 patients were included. The distribution by age, gender, and histology was the same for public and private systems. The majority of patients were diagnosed on stages I and II (77.8%) in the private system. However, in the public system, it was found more advanced stage disease (67.8% in stages II and III). Patients with metastatic tumor were more common in the public system (11.1% versus 5.3%). Treatment with surgery and, at least, two types of adjuvant therapy as trimodal therapy were the same in both groups (46.6% private versus 46.2% public). KM plot shows 5- and 10-years OS differences in all stages; 10-year OS in stages I, II, III, and IV in private and public systems were, respectively, 81.6 versus 77.5%, 74 versus 63.3%, 55.6% versus 39.6%, and 7.6 versus 6.4%. In the multivariable analyses, the significant independent predictors for OS were private system, age and stage at diagnosis, high-level education, and trimodal therapy. **Conclusion:** Older patients, less intensive treatment, and lower educational levels were independent predictors for worse OS. Public health system presented a more advanced stage at diagnosis than private care and was associated with worse survival outcomes in Brazilian breast cancer patients.

**Keywords:** Public health system. Private health care. Breast cancer. Treatment. Prognosis.