

## **Breast Cancer Mortality and Comorbidities in Portugal: A Predictive Model Built with Real World Data**

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**Abstract :** Breast cancer (BC) is the first cause of cancer mortality among Portuguese women. This retrospective observational study aimed at identifying comorbidities associated with BC female patients admitted to Portuguese public hospitals (2010-2018), investigating the effect of comorbidities on BC mortality rate, and building a predictive model using logistic regression. Results showed that the BC mortality in Portugal decreased in this period and reached 4.37% in 2018. Adjusted odds ratio indicated that secondary malignant neoplasms of liver, of bone and bone marrow, congestive heart failure, and diabetes were associated with an increased chance of dying from breast cancer. Although the Lisbon district (the most populated area) accounted for the largest percentage of BC patients, the logistic regression model showed that, besides patient's age, being resident in Bragança, Castelo Branco, or Porto districts was directly associated with an increase of the mortality rate.

**Keywords :** breast cancer, comorbidities, logistic regression, adjusted odds ratio

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