Abstract

Background: Population-based cancer survival is a key indicator for assessing the effectiveness of cancer control by a health care system in a specific geographic area. Breast cancer is the most common cancer among women in India, accounting for over one quarter of all female cancers. The objective of this study was to estimate the 5-year survival of female patients who were diagnosed with breast cancer between 2012 and 2015 from the existing Population-Based Cancer Registries (PBCRs) in India.

Methods: In total, 17,331 patients who had breast cancer diagnosed between 2012 and 2015 from 11 PBCRs were followed until June 30, 2021. Active methods were used to track the vital status of registered breast cancer cases. The study conducted survival analysis by calculating the difference between the date of first diagnosis and the date of death or censoring to estimate observed survival and relative survival using the actuarial survival approach and the Ederer-II approach, respectively.

Results: The 5-year age-standardized relative survival (95% confidence interval [CI]) of patients with breast cancer was 66.4% (95% CI, 65.5%-67.3%). Mizoram (74.9%; 95% CI, 68.1%-80.8%), Ahmedabad urban (72.7%; 95% CI, 70.3%-74.9%), Kollam (71.5%; 95% CI, 69.2%-73.6%), and Thiruvananthapuram (69.1%; 95% CI, 67.0%-71.2%) had higher survival rates than the national average. Conversely, Pasighat had the lowest survival rate (41.9%; 95% CI, 14.7%-68.6%). The 5-year observed survival rates for localized, regional, and distant metastasis in the pooled PBCRs were 81.0%, 65.5%, and 18.3%, respectively.

Conclusions: The overall disparity in survival rates was observed across 11 PBCRs, with lower survival rates reported in Manipur, Tripura, and Pasighat. Therefore, it is imperative to implement comprehensive cancer control strategies widely throughout the country.