

Spatial autocorrelation of breast cancer mortality in the Metropolitan Region, Chile: an ecological study

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Abstract

Introduction

Breast cancer is the most common malignancy in women worldwide and Chile, being the leading cause of female cancer death. A wide variation in mortality has been reported, with geographic clusters of higher risk.

Objective

To spatially analyze mortality from breast cancer in women in the Metropolitan Region in 2015.

Methods

Ecological study of location. We used death records in 2015 (C50 according to ICD10) and population projections of the Statistics Institute to estimate mortality rates. We calculated crude breast cancer mortality rates and standardized mortality ratios and performed a spatial epidemiological analysis of breast cancer mortality in women, estimating the global and local Moran I index to assess spatial autocorrelation. We present the results in maps according to the 2016 pre-census cartography.

Results

There were 622 deaths from breast cancer in the Metropolitan Region in 2015. The mean age was 66 years (SD: 15.5). 92.4% of deaths were registered urban or central areas. However, the highest mortality rates were observed in peri-urban districts. No global spatial autocorrelation was observed in the region (Moran's I 0.007 $p = 0.134$). However, at the local level, four districts differ significantly from their neighbors.

Conclusions

The risk of dying from breast cancer in the Metropolitan Region of Chile is concentrated in women from peripheral communes. Four districts in the region present different risks from their neighboring districts. It is necessary to investigate local realities to prevent deaths from this pathology.

Palabras clave

Palabras clave de autor:[breast neoplasms](#); [breast cancer](#); [mortality statistics](#); [spatial analysis](#)

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Editorial

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