

Evaluation of significant factors influencing the survival time of breast cancer patients using the Cox regression model

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Abstract

Purpose

The leading cause of cancer-related deaths in Iraqi women is breast cancer, followed by other malignancies. The purpose of this research is to investigate the association between covariates (pathological and demographic characteristics) and time to death in women with breast cancer.

Methods

Data were collected from the cancer archive in the city of Sulaimani regarding 305 women who received breast cancer diagnoses between 2011 and 2020. Using R and SPSS Programs, Cox regression was used to investigate the relationship between explanatory variables (sociodemographic, pathological factors, and treatment) and time to death as a response variable.

Results

The study's findings showed that occupation was statistically the greatest risk factor (-2.361), followed by weight and treatment (0.789 and 1.605, respectively), while age, place of habitation, and tumor size had no statistically significant effect on survival time in breast cancer patients.

Conclusion

This study discovered that patients who receive therapy, such as chemotherapy, radiotherapy, and hormonal therapy, alone or in combination live longer than patients who do not receive therapy. In addition, it emphasizes that not exercising and staying at home, not eating nutritious food, and eating red meat and fried meals are the most common factors associated with shorter survival time in breast cancer patients.

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