v. 4, n. 104, 2024

International Journal of Health Science

Acceptance date: 13/12/2024
Submission date: 04/12/2024

THE IMPACT OF BREAST CANCER SCREENING ON SURVIVAL RATES: A LITERATURE REVIEW

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Abstract: Breast cancer is one of the most prevalent neoplasms in the world. In Brazil, the disease is the second most common in women, second only to non-melanoma skin cancer. Mortality associated with the disease is on a rising pattern in total deaths from breast cancer, so it is imperative to review strategies for early screening for the disease. Mammography is the test indicated to monitor risk groups, and is recognized by world health bodies as a test capable of screening the disease in its early stages. In the early stages of the disease, with rapid diagnosis, studies show that survival rates increase significantly. With this in mind, this article seeks to review the available literature on the impact of breast cancer screening on survival rates, as well as understanding the challenges and prospects for implementing this strategy in Brazil.
Keywords: Breast cancer, women, screening, survival.

INTRODUCTION

Breast cancer is one of the most prevalent neoplasms in the world, representing an important cause of morbidity and mortality among women. In Brazil, it is estimated that breast cancer is the most common cancer among women, second only to non-melanoma skin cancer (2), which reinforces the relevance of this problem, highlighting the need for effective strategies for its early detection. In this respect, mammographic screening has stood out as a crucial intervention, associated with a significant reduction in mortality and an increase in survival rates, especially in the early stages of the disease (1,2).

National guidelines emphasize the importance of organized screening aimed at at-risk populations, contributing to earlier diagnosis and less invasive treatments (2). Evidence shows that early detection, combined with effective public policies, can reduce mortality by up to 40%, demonstrating the positive

impact of these actions on public health (1,7).

This article therefore seeks to review the available literature on the impact of breast cancer screening on survival rates, with a focus on Brazilian guidelines. The aim is to understand how early detection practices influence clinical outcomes, as well as to discuss the challenges and prospects for implementing these strategies in Brazil.

METHODOLOGY

This is a literature review, based on articles published between 2015 and 2024 in the Scientific Electronic Library Online - SciELO database and guidelines from the National Cancer Institute - INCA, available online, using the descriptors: breast cancer, early detection, mammography, screening and their respective synonyms, in Portuguese. Only published articles dealing with the topic and available online were included. Articles outside the proposed period, which did not deal with the topic, not available online and repeated articles found in different databases were excluded.

LITERATURE REVIEW

Breast cancer has a high incidence in Brazil, second only to non-melanoma skin tumors, and is common in all regions of the country. Despite improvements in the forms of diagnosis and treatment, the number of cases of the disease remains high, with high mortality rates, highlighting the importance of early screening tests, especially mammography, the main screening test, since it can diagnose breast cancer in its early stages and, consequently, has a positive impact on overall survival rates (7).

The strategy of early diagnosis helps to reduce the stage of cancer presentation. This strategy emphasizes the importance of educating women and health professionals to recognize the signs and symptoms of suspected breast cancer, as well as quick and easy access to health services, both in primary care and in referral services for diagnostic investigation (GOV).

Breast cancer screening is a strategy that should be aimed at women in the age group and periodicity in which there is conclusive evidence of a reduction in breast cancer mortality and in which the balance between the benefits and harms to health of this practice is most favorable. The potential benefits of biennial screening with mammography in women aged 50 to 69 are a better prognosis of the disease, more effective treatment and lower associated morbidity.

The risks or harms include false-positive results, which generate anxiety and excessive tests; false-negative results, which result in false peace of mind for the woman; overdiagnosis and overtreatment, related to the identification of tumors with indolent behavior (diagnosed and treated without being life-threatening); and, to a lesser extent, the risk of exposure to ionizing radiation at low doses, especially if it is performed more frequently than recommended or without quality control (2).

One of the main challenges to implementing mammography screening in Brazil lies in the socio-economic barriers and unequal access to health services. Mammography coverage in the country is unequal, with lower adherence rates among women on low incomes, with less schooling or who live in rural and peripheral areas. Lack of knowledge about the importance of the test, difficulty in accessing services and the overload of the Unified Health System (SUS) negatively affect adherence to screening, especially in more remote regions. These factors contribute to inequality in the early detection of breast cancer, resulting in later diagnosis and higher mortality rates (7).

Breast cancer mortality in Brazil has shown an upward trend, according to a study that analyzed data from 2005 to 2019. The total number of deaths from breast cancer in this period was 207,683, with an uneven distribution between regions. The South and Southeast had the highest average mortality rates, with 22.09 and 21.99 deaths per 100,000 women, respectively. However, the most significant increase was recorded in the North and Northeast, with mortality rates rising by 73.21% and 78.54%, respectively. These regions also have less access to health services and adequate infrastructure for early screening. The analysis showed that, despite regional disparities, public health policies focused on early screening and diagnosis at an early stage are essential for mitigating mortality, although underfunding and lack of resources in some regions hinder the effective implementation of these policies. (6)

According to INCA 2022, of the 1,706,356 mammograms carried out in Brazil in the 50-69 age group, only 63,662 took place in the North, where there were the second highest number of cases with BIRADS 4 and 5, only behind the Central-West region. In contrast, the southeast had the highest proportion of screening mammograms in the target age group. Furthermore, 50.5% of the reports were released within 30 days, 22.8% between 30 and 60 days and 26.7% in more than 60 days.

In view of the data, the inequality in access to trained and prepared professionals, access to resources and the delay between requesting and releasing the report are the reasons why there is a loss of patient compliance and consequently an increase in the overall mortality rate in the country.

Furthermore, the relationship between the overall survival rate of breast cancer patients and the influence of types of health insurance on this issue is noteworthy. According to data from a study carried out by the Brazilian Breast Cancer Research Group, patients in the public health system had a significantly lower survival rate than those in the private health system, especially those with cancer in more advanced stages, thus confirming the importance of early detection in order to minimize the differences in survival rates between the public and private health systems. (1)

FINAL CONSIDERATIONS

Based on the above, it can be concluded that mammographic screening carried out every two years between the ages of 50 and 69 should be encouraged as it is an essential tool for the early detection of breast cancer. Furthermore, it is extremely important to create strategies to improve screening and strengthen primary care, since these actions are directly related to patient adherence and early diagnosis. Finally, it should be reiterated that mammography in an organized and structured manner is closely linked to a reduction in mortality and an improvement in the quality of life of women diagnosed with breast cancer, thus contributing to better overall survival rates.

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