

## Breast cancer – statistical analysis data in a 5 year period in Strumica, Republic of North Macedonia

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**Abstract:** Breast cancer is considered to be the most common malignant disease in women. Especially the last two decades, the incidence of breast cancer is on the rise. Breast cancer can occur on every area, but more commonly occurs in women over 50 years of age. This is the most common malignant neoplasm and the second most often in the lung cancer cause of cancer-associated mortality (16%) in women. For the purposes of this paper was used data from the Public health center for diseased breast cancer patients in the region of Strumica, Republic of North Macedonia, in the period 2014-2018, ie within 5 years. The results show that most patients with breast cancer were registered in 2015. The research was done on 80 women who were registered, at an average age of 57 years, the youngest being at the age of 20 and the oldest at the age of 97. Republic of North Macedonia is one of the few countries in Europe where cancer mortality has increased in the last 15 years, and breast cancer is among the most common causes of death. From the analysis of the Institute of Public Health, the most common cause of death in women from malignant neoplasms in the period from 2010 to 2017 is breast cancer. The mortality rate ranged from 30.0 in 2010 to 26.9 in 2017, while most deaths were recorded in 2016 with 32.7 per 100,000 women. The incidence of breast cancer is on the rise and every eighth woman is suffering from this severe illness.

**Key words:** cancer, analysis, breast, oncology, statistics

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### I. Introduction

Breast cancer is considered to be the most common malignant disease in women. Especially the last two decades, the incidence of breast cancer is on the rise. Breast cancer can occur on every area, but more commonly occurs in women over 50 years of age. This is the most common malignant neoplasm and the second most often in the lung cancer cause of cancer-associated mortality (16%) in women.

Breast cancer is a modern disease that occurs in a large number of women of different ages and generations, but it has been proven that this type of cancer most commonly occurs in women aged 35-50, although other ages are not spared. Breast cancer, apart from women, also occurs in men. Symptoms diagnosis and therapy are very similar to both women and men. The earlier it is diagnosed, the greater the chance of treatment. Therefore, the medical workers to be careful and regularly educate the population for self-examination, symptoms, and the initial alarm for the occurrence of this disease.

Breast carcinoma is most commonly formed or starts in cells located in milk production channels (invasive ductal carcinoma). Breast cancer can also be formed in the glandular tissues, called lobules (invasive lobular carcinoma), or in other breast cells.

The strongest associations for the development of this cancer is the personal and family history of carcinoma. Women who survived invasive carcinoma in the contralateral breast have a 20% chance of developing carcinoma in the other breast.

Most lesions are manifested with symptoms such as pain, palpable lumps or seizure secretions, or are asymptomatic with mammographic abnormalities.

Breast cancer is characterized by the absence of early symptoms. In the early stages, only 10% of patients experience breast pain. The first symptom is usually the appearance of a lump. It is detected by self-examination in more than 80%, in 2-3% of patients there is a watery or purulent discharge from the nipple.

The diagnosis is based on clinical palpation, bilateral mammography, and echoes of the breast. A pathological diagnosis is made with fine-needle aspiration or with core-needle biopsy and should be done before any surgical procedure. The final pathological diagnosis should be made according to the classification of the World Health Organization and the TNM-staging system by analyzing all the extracted tissue.

The modern therapeutic approach includes local and regional control, using combined surgical (mastectomy or quadrantectomy with dissection of the axillary nodes) and postoperative radiation therapy and systemic control with hormone therapy and/or chemotherapy. Recent therapeutic strategies include inhibition of membrane-bound growth factors (HER2/neu), stromal proteases and angiogenesis. [1-4]

## II. Material and methods

For the purposes of this paper was used data from the Public health center for diseased breast cancer patients in the region of Strumica, Republic of North Macedonia, in the period 2014-2018, ie within 5 years. The research was done on 80 women who were registered, at an average age of 57 years, the youngest being at the age of 20 and the oldest at the age of 97.

The working methods used are:

- Collecting and analyzing data from the Center for Public Health - Strumica for the period from 2014 to 2018, ie within 5 years.
- Collecting and analyzing data from the Public General Hospital Strumica in the period from 2014 to 2018
- Collecting and analyzing data on the age of patients and the days of hospitalization from the Public General Hospital Strumica for a period of 5 years.

The purpose of this research for breast cancer was to make an overview of the number and percentage of diseased patients in the region of Strumica in a period of 5 years.

## III. Results and discussion

The results show that most patients with breast cancer were registered in 2015.

Table 1 gives the total number of patients who were recorded from 2014-2018 individually for each year, and the total number of patients in a period of 5 years. Most patients - 22 are registered in 2015.

**Table 1.** Total number of diseased patients with breast cancer

Year	Number of patients
2014	13 patients
2015	22 patients
2016	19 patients
2017	11 patients
2018	15 patients
<b>Total number of cases 2014-2018</b>	<b>80 patients</b>

In 2014, a total of 13 women with breast cancer were registered. Most were on age of 69 - 3 women. Second age group is 76 years - 2 women. While the youngest woman with breast cancer in 2014 was born in 1993 (21 year). The patients were hospitalized in the general hospital Strumica, at least 5 days, and one 61 year old patient has been kept for 25 days.

Registered patients in 2015 are aged 52 to 84 years. Most registered women were on age of 55 – 7 women and 4 women on 65 years of age 4 women. The patients were hospitalized on average 5-10 days.

Republic of North Macedonia is one of the few countries in Europe where cancer mortality has increased in the last 15 years, and breast cancer is among the most common causes of death. From the analysis of the Institute of Public Health, the most common cause of death in women from malignant neoplasms in the period from 2010 to 2017 is breast cancer. The mortality rate ranged from 30.0 in 2010 to 26.9 in 2017, while most deaths were recorded in 2016 with 32.7 per 100,000 women.

Breast cancer arises from the epithelial cells of the terminal ductolubular units of the glandular parenchyma. They are more commonly reported on the left breast, in a ratio of 1.1:1, with 40-50% of the cancer being localized in the upper outer quadrant, and the frequency of others localizations gradually decline in other regions, from the central, upper inner to the lower external quadrant.

From the analysis of the Institute of Public Health, the most common cause of death in women from malignant neoplasms in the period from 2010 to 2017 is breast cancer. The mortality rate ranged from 30.0 in 2010 to 26.9 in 2017, while most deaths were recorded in 2016 with 32.7 per 100,000 women. The incidence of breast cancer is on the rise and every eighth woman is suffering from this severe illness.

Primary prevention has very little opportunity to prevent the initiation and promotion of carcinogenesis; a reduction in morbidity and mortality is possible only with secondary prevention or early diagnosis of precancerous lesions. Although morbidity has risen over the past 20 years, the prognosis has been improved by early diagnosis, and partly because of the therapeutic treatment that is directed to the systemic spread of the disease. [5, 6, 7]

#### **IV. Conclusion**

The incidence of breast cancer is on the rise and every eighth woman is suffering from this severe illness. Breast cancer has been widely reported since the Strumica region, especially in 2015 when most patients were registered. Women's health protection, especially in the reproductive period, occupies an exceptional place in the health care of a nation. Measures taken in this area are very significant and characteristic.

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