

Breast Cancer – Statistical Analysis Data in A 8 Years Period In Makedonska Kamenica And Delcevo, Republic Of North Macedonia

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Abstract: Breast cancer is the most common cancer in the female population. Breast cancer can occur in each period of life, but the most commonly occurs in women in the age of 45-49 and 55-59, ie in the years to menopause. For the purposes of this paper was used data from the Public health center Kocani for diseased breast cancer patients in the region of Makedonska Kamenica and Delcevo, Republic of North Macedonia, in the period 2010-2018, ie within 8 years. According to the results, most patients with breast cancer were registered in 2016 in M. Kamenica. The research was done on 106 women who were registered on the age between 20 and 75. Most registered women were on age of 45-54 ie 31% and on 55-64 years of age also 31%. While in Delcevo most patients with breast cancer were registered in 2014 and 2016. The number of women with breast cancer in these two years is 36. The research in this town was done on 226 women who were registered on the age of 20 to 75. Most registered were women on age of 55 to 65 ie 33%. Of the most common malignant diseases, 6% of breast cancer is present in the World Frame, while in the European region 17% of all malignant diseases is breast cancer. In the Republic of Northern Macedonia in 2010, 25.7% of all malignant diseases in the female population was breast cancer.

Key words – cancer, breast, oncology, analysis, statistics

Date of Submission: 12-09-2019

Date of Acceptance: 30-09-2019

I. Introduction

Breast cancer is the second most common malignancy in the female population. But in rare cases it can occur in men. The number of breast cancer patients is on a steady increase and is one of the most common causes of the deaths of women in the world. The main reason for the increased incidence is the increased life expectancy of people. 10% of the female population in a certain period of their lives will develop breast cancer. Macedonia is on the third place in terms of the number of deaths from breast cancer in Europe.

According to data from 8 or 9 women, one of them will develop breast cancer in a certain period. The incidence is increasing after 30 years of age.

Depending to which tissue originates, breast cancer can be ductal and lobular carcinoma. Ductal carcinoma originates from the milk canals, while the lobular carcinoma is derived from milk mammals that produce milk.

It has been proven that certain factors affect the occurrence of breast cancer such as: genetics, endocrine and environmental factors. However, the most significant and proven risk factor is the family predisposition.

Breast cancer can be formed in the glandular structures called lobular (about 10% of all breast carcinomas), or formed in cells located in milk production channels, called ductal carcinoma (more than 90% of all cancers).

At the beginning the disease usually starts without symptoms, ie it's asymptomatic. Symptoms may be local (palpable lumps, deformation of the breast, changing in the color of the nipple, seizure secretions), regional (numbness or swelling of the hand) and systemic (weakness, general malaise, nausea, vomiting).

The diagnosis is based on ultrasound, mammographic examination and biopsy. A biopsy sample can be taken with needle biopsy and surgical biopsy. Needle biopsy is made with fine-needle aspiration and core needle.

The therapeutic approach is a complex method that should be team-led and also individualized for any patient with breast cancer. There are several therapeutic options for the treatment of breast cancer, such as

surgical (mastectomy or lumpectomy), chemotherapy, radiotherapy, hormone therapy, immunotherapy, psychotherapy. [1-7]

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 Delcevo and MakedonskaKamenica, Republic of North Macedonia, in the period 2010-2018, ie within 8 years.

The working methods used are:

- Data analyzation received from the Center for Public Health Kocani
- Data analyzation for breast cancer patients in M.Kamenicafor the period from 2010 to 2018
- Data analyzation for breast cancer patients in Delcevo for the period from 2010 to 2018
- Data analyzation from State Statistical Office of the Republic of North Macedonia

The results are processedin detail, analyzed and statistically presented in the paper in tables, graphs and images.

III. Results and Discussion

Table 1. Breast cancer patients in MakedonskaKamenica from 2010-2018

YEAR	NUMBER OF DISEASED
2010	9
2011	15
2012	6
2013	10
2014	6
2015	11
2016	18
2017	15
2018	16
TOTAL	106

According to the data obtained from this table, it is evident that in the last three years the number of breast cancer cases has doubled compared to previous years.

Table 2. Number of newly discovered patients with breast cancer in MakedonskaKamenica (2010-2018)

Year	Number of new-diseased
2010	2
2011	3
2012	0
2013	1
2014	0
2015	1
2016	2
2017	2
2018	2
Total	13

Table3. Number of breast cancer patients by age in M.Kamenicain the period 2010-2018

Age Year	20-24	25-34	35-44	45-54	55-64	65-74	75+
2010			1	3	5		
2011			2	5	6	2	
2012			2		3	1	
2013				4	2	4	
2014				4	1	1	
2015		1	2	3	1	4	
2016				5	7	5	1
2017			4	4	4	2	1
2018			3	5	4	3	1

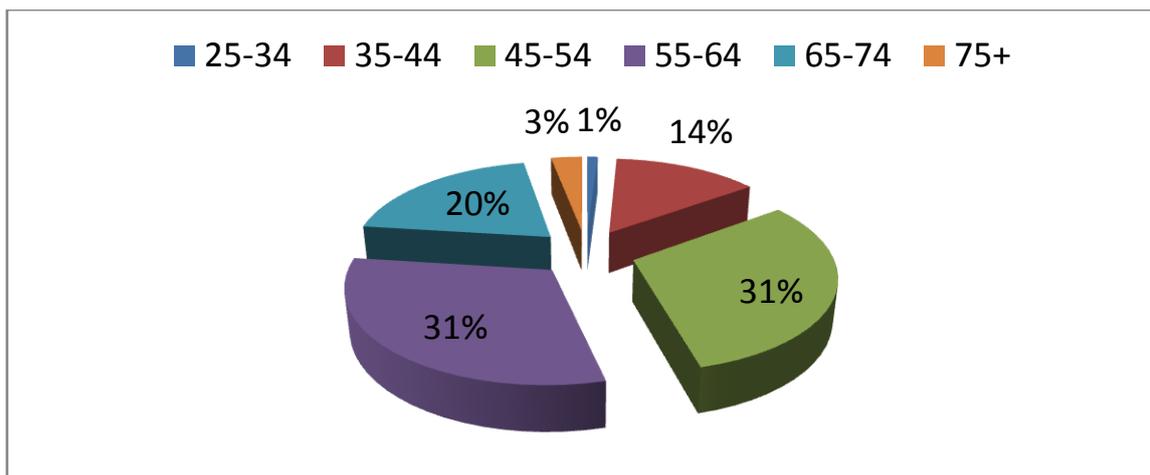


Chart 1. Number of breast cancer patients by age in M. Kamenica in the period 2010-2018 in percentage

Table 4. Breast cancer patients in Delcevo in the period 2010-2018

Year	Number of diseased
2010	25
2011	17
2012	14
2013	12
2014	36
2015	29
2016	36
2017	24
2018	33
Total	226

In Delcevo as in M.Kamneica, the number of breast cancer patients is constantly increasing, unless certain measures for prevention and early detection are taken, this number will be on a steady increase.

Table 5. Number of newly discovered breast cancer in Delcevo (2010-2018)

Year	Number of new-diseased
2010	3
2011	2
2012	1
2013	1
2014	7
2015	3
2016	5
2017	2
2018	4
Total	28

Table 6. Number of breast cancer patients by age in Delcevo

Age Year	20-24	25-34	35-44	45-54	55-64	65-74	75+
2010			5	5	5	9	1
2011		1	2	6	3	3	2
2012			2	5	6	1	1
2013			2		6	3	1
2014		1	4	11	12	6	2
2015		1	3	7	11	5	2
2016		1	2	13	11	8	1
2017			1	8	7	6	2
2018			2	6	12	10	3

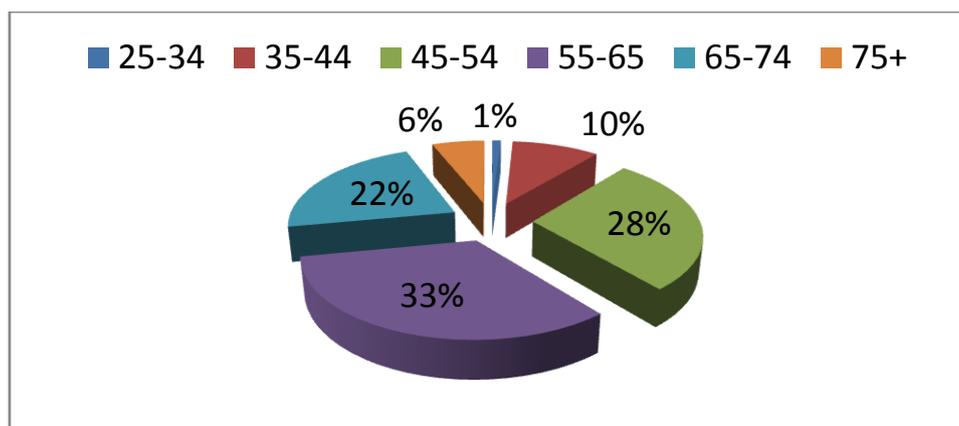


Chart 2. Percentage of breast carcinoma by age in Delcevo in the period 2014-2018

From malignant diseases that are most common, in the World 6% is a breast cancer, while in the European region 17% of all malignant diseases is breast cancer.[6] In the Republic of North Macedonia in 2010, 25.7% of all malignant diseases in the female population was breast cancer. In terms of breast cancer mortality in 2013, 272 women died, in 2014 died 279 women, in 2015 died 281 women, in 2016 died 338 women and in 2017 died 279 women. While the number of men who died of breast cancer is significantly lower, in 2014 5 men died of breast cancer, in 2015 died 7 men, in 2016 died 5 men and in 2017 died 3 men.

IV. Conclusion

Breast cancer in the female population is on a steady increase. This disease is the second most common cause of death in the female population. In order to reduce the mortality of this malignant disease, it is necessary to apply preventive measures. With preventive measures patients will have a better quality of life and mortality rate will be reduced.

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Jihe Zhu. “Breast Cancer – Statistical Analysis Data in A 8 Years Period In Makedonska Kamenica And Delcevo, Republic Of North Macedonia.” IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 9, 2019, pp 10-16.