

STATISTICAL STUDY ON THE INCIDENCE AND PREVALENCE OF BREAST CANCER, IN ARAD COUNTY, BETWEEN THE YEARS 1999-2009

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ABSTRACT. Breast cancer is a major public health problem in most countries of the world. The European Union breast cancer incidence is 109.8 / 100,000 women per year, breast cancer incidence in Romania increased from 25 / 100,000 women in 1988 to 50.56 / 100,000 women in 2006. In fact, this malignant tumor disease ranks first in cancer pathology in women. In terms of Arad County, in the period 1999-2009 can be clearly seen as a certain oscillation in the crescendo of the disease through breast cancer, especially among the female population. In absolute figures in 1999 breast cancer incidence in women was about 26 / 100,000 women and about 70 / 100,000 women in 2009. Relationship between year 1999 and 2009, when illness with breast cancer is 2.69, new cases recorded in 2009 are nearly three times more.

Keywords: breast cancer, incidence, prevalence, Arad County

INTRODUCTION

Breast cancer is a major public health problem, with an incidence in the European Union of 109.8 / 100,000 women / year and a mortality of 38.4 / 100,000 women / year (Morris P.J. and Malt R.A., 1994).

Regarding the frequency of the disease in Romania, compared to the year 1960 they represented 6.9% of all malignant tumors in women in 1978 reached 13.5% and in 1996 reached 22.61%, ranking first in pathology cancer in women. Breast cancer incidence in Romania increased from 25 per hundred thousand women in 1988 to 40.14 per hundred thousand women in 1996, when the disease prevalence was 252.22 per hundred thousand women. The incidence reached 50.56 per hundred thousand women in 2006 (Mazilu V. et al, 2003).

In our country, two thirds of patients presented in stage III and IV, the situation can be explained on the one hand, the lack of cancer education population and on the other hand, by not applying the measures of early detection of the disease (Bălănescu I. and Al. Blidaru, 2003).

MATERIALS AND METHODS

The objective of the study is to describe the distribution characteristics of breast cancer in female population of the county of Arad. It is a descriptive study that contains analytical conclusions, judgments on possible relationships between the various factors studied (Drugan T. et al, 2005, Landrison G. and Delahaye F., 2001).

New cases are analyzed and breast cancer incidence at the county level during 1999 to 2009. Statistics were taken from the Arad Center for Health Statistics Public Health Directorate and from Arad County Department of Statistics.

Statistics on breast cancer are produced by such comprehensive annual surveys, whose forms are completed by all health care units and the cities of Arad County operated hospitals and performing primary or secondary research scientific.

The main objective of the survey is to collect statistical data on quantitative indicators related to breast cancer, comparative evolution of the three stages, namely advanced, curable and unspecified, disease's incidence, disease's prevalence etc.

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Based on the statistical surveys to obtain the necessary statistical information to potential beneficiaries of the family doctor to specialist and, of course, the medical institutions in the organization of life, to promote monitoring programs and early diagnosis of breast cancer (Țigan S. et al, 2001).

RESULTS AND DISCUSSIONS

Breast cancer in women is the first among malignant tumors in most countries, both the incidence and the mortality (Lippman M.E., 1988, Kelsey M.M., 1990, Colditz G.A., 1993).

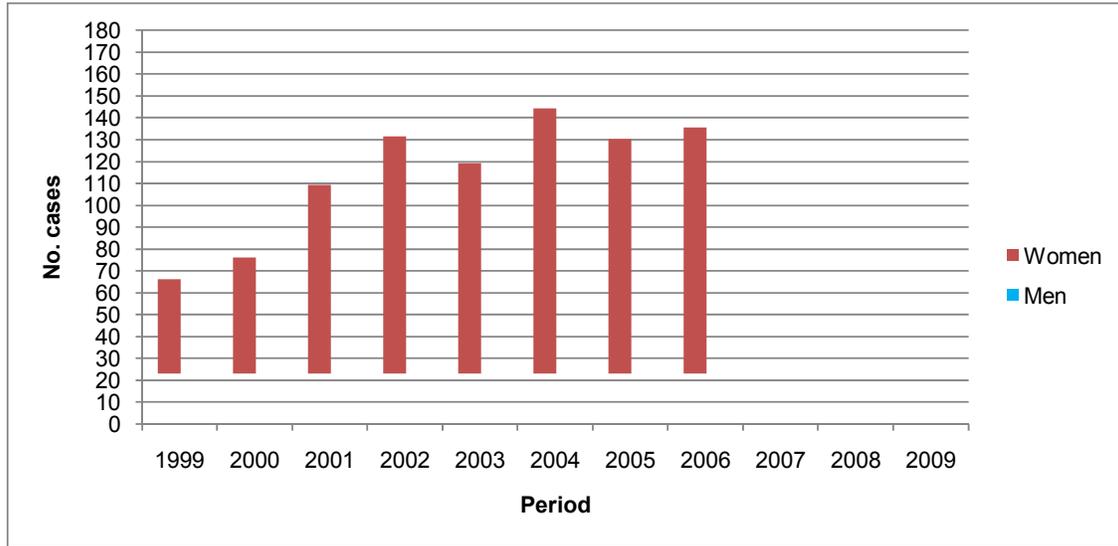


Fig. 1 Dynamic breast cancer disease. New cases registered during 1999-2009

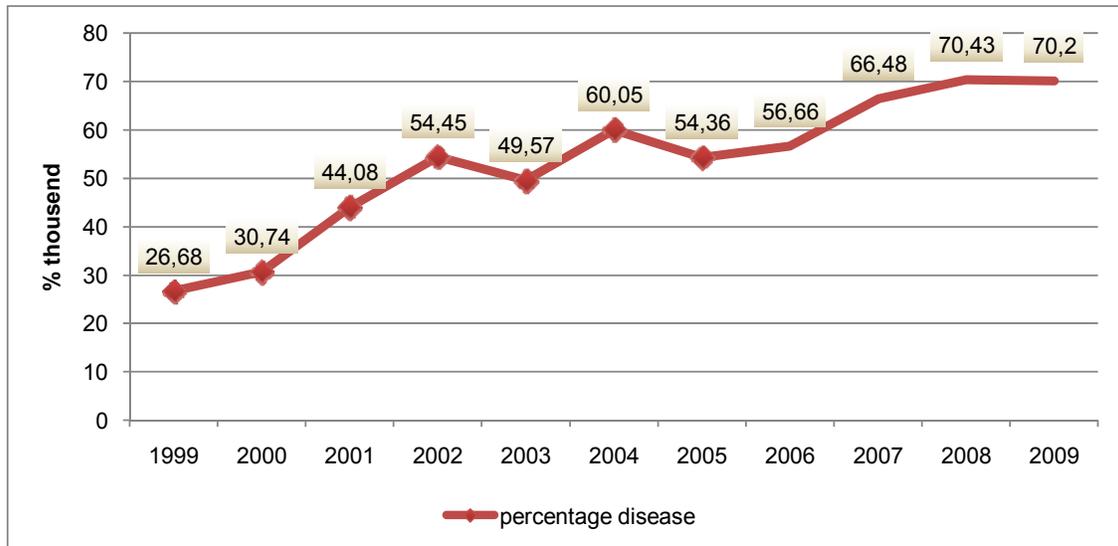


Fig. 2 The dynamics of breast cancer disease in women. Newly registered cases in the county of Arad, in relation to the total population of women

Intuitively, the chart clearly expresses a certain oscillation in the crescendo of diseases of the breast cancer population Arad County. The chart captures a period of 11 years; long enough to reach a conclusion on the possibilities of preventive measures and early

detection measures that are the responsibility of the doctors (from family physicians to the surgeons).

It is an obvious disproportion of cases of disease in women and men. In absolute numbers in men ranges from zero cases in the

years 2002-2003 and six cases in 2005, which is in fact an exception, as in other years we have a case in 1999-2001 and three cases in the period 2006-2009. In women the cases in absolute numbers fluctuate between 66 cases in 1999 and 167/166 in 2008-2009 (Fig. 1).

This chart is a statistical processing on the ratio of the total female population and new cases of infection in women with breast cancer reported annually in the period 1999-2009 (during 11 years).

Even if the total population of women in County Arad is decreasing, the cases of breast cancer in absolute numbers are increasing.

The statistics show that 26 women out of 100,000 new cases of illness are recorded in 1999, in addition to those recorded in previous years. One has slightly decreased in 2003 compared to 2002 and from 2005-2006 to 2004 growth in the obvious increase in 2009 reached 70 per 100,000 women suffering women. The ratio between 1999 and 2009, when breast cancer disease is 2.69, new cases recorded in 2009 are nearly three times more (Fig. 2).

The situation presented in the chart allows us a comparative analysis of new cases recorded in the city of Arad and distinct, in rural areas and towns of the county.

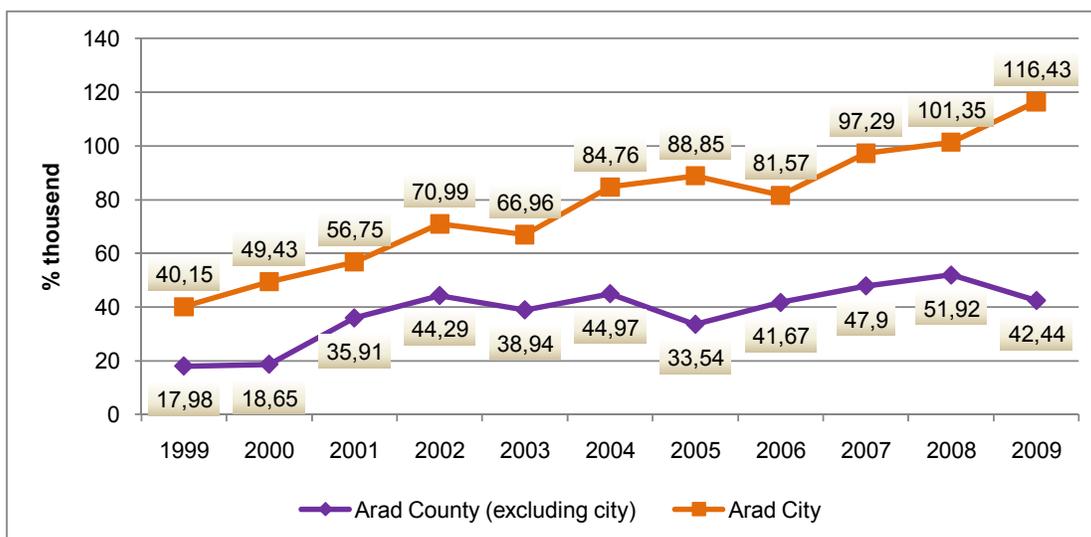


Fig. 3 The dynamics of breast cancer disease in women. New cases registered in Arad County (excluding city) and Arad City, in relation to the total population of women. Chart comparison.

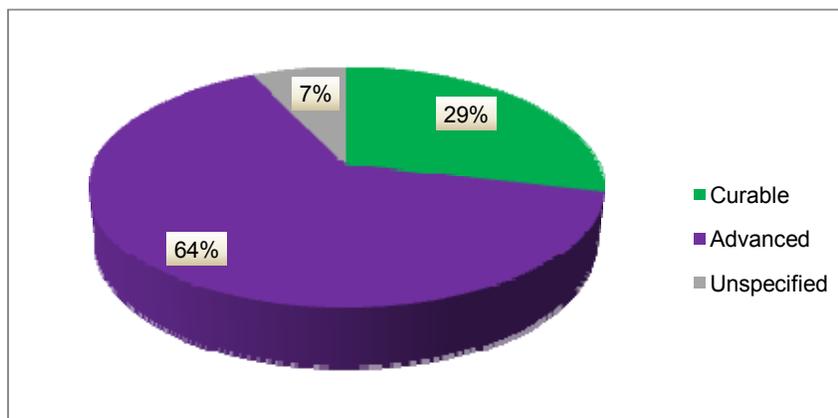


Fig. 4 The Percentage Distribution of detecting disease status in the study group

A first finding is a large difference between the city and the county of Arad. The difference appears more clearly in the report between the two percentages calculated: new cases recorded in the city of Arad are 2.35 times more than in the county.

In absolute figures, in 2009 we had 103 cases in the city of Arad on a population of 88 458 women and 63 cases in the county to a population of 148,412 women (Fig. 3).

The chart is quite suggestive of statistical activities of breast cancer diagnosis. It appears that in Arad during the 11 years in the

study were taking various stages of the disease found in 1424 cases.

In the advanced stage we find a slight oscillation compared with the percentage of 64% to cover the entire period. This percentage fell below 60% during 1999, 53% during 2000 and 56% during 2009.

During 1999-2009 the curable stage knows a certain oscillation: 1999 by 33%, 2000 by 35%, 2004 and 2007 by 32% (over rate) and 2001 by 16%, 2002 by 24%, 2005 and 2009 by 16% (bellow the reference rate).

The unspecified stage also knows some fluctuations (fig. 4).

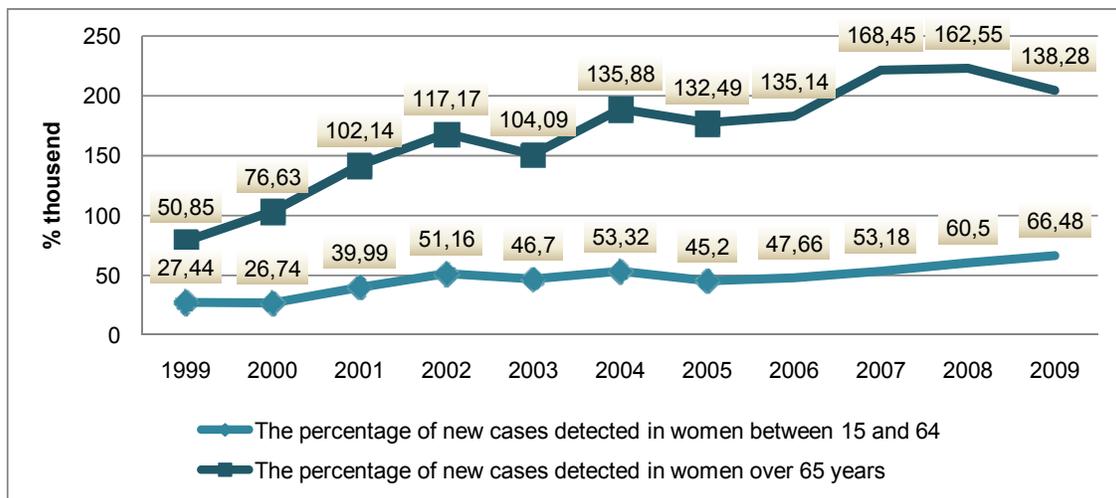


Fig. 5 The percentage distribution of newly recorded cases of infection in women, relative to the female population of the County of Arad (graphic comparison of age reported)

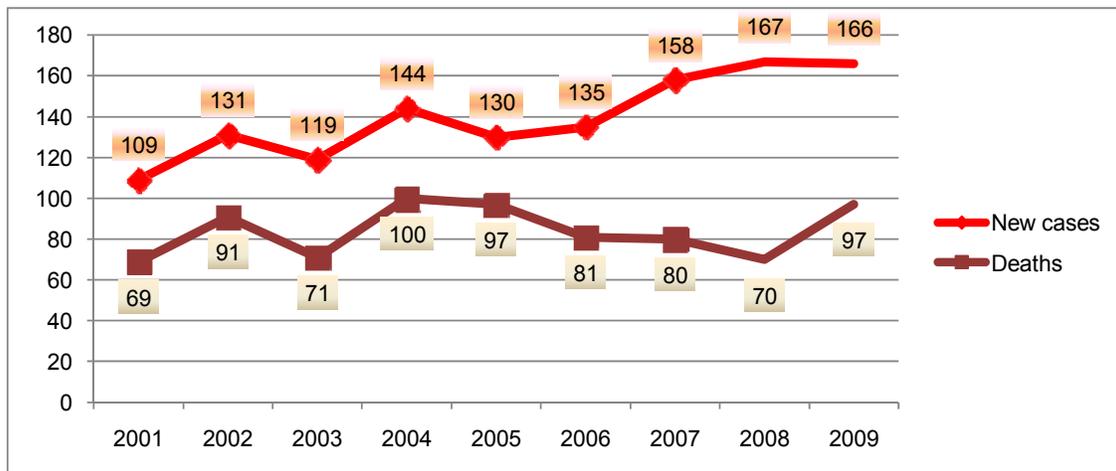


Fig. 6 The dynamics of newly recorded cases and deaths by breast cancer in women, between 2001-2009

The graph covers compared to women aged 15-64 years and women aged over 65

years. However, comparative analysis and to the county's total population divided by the 2

Arad age mentioned. When referring to the age group of women over 65 years we see an increasing trend, with some oscillation, which includes minimum values respectively in 2003 and 2006, compared to previous years in 2002 and 2005. In absolute figures in 1999 were found in 21 cases and 58 cases in 2009. Throughout the period, in women aged 65 years 561 cases were recorded, indicating an average period of 119 per hundred thousand women. If the segment of women aged between 15 and 64 years the share of cases of disease of breast cancer is lower than in the women over 65 years. From the graph we notice a relatively steady growth, with minor oscillations. In 1999 there were 45 cases and 108 cases in 2009. At the age segment 15-64 years we have been 840 reported cases, which

indicate an average period of 46 to hundred thousands of women (Fig. 5).

The new cases recorded in the nine years are estimated to 1259 women suffering with breast cancer. If in 2001 there were recorded 109 new cases, in 2009 the situation is different (166 cases with a 1.52 times increase). In the same period the number of deaths from breast cancer was by 756 cases. The evolution of breast cancer deaths in women is oscillating: if in 2001 there were 69 cases of death, in 2002 there were 91 cases, the deaths in 2003 falling to 71 cases, and in 2004 grow explosively to 100 cases.

The average annual new cases of breast cancer in women registered during the years 2001-2009 is 140 cases, while in contrast media deaths in the same period is 84 cases (Fig. 6).

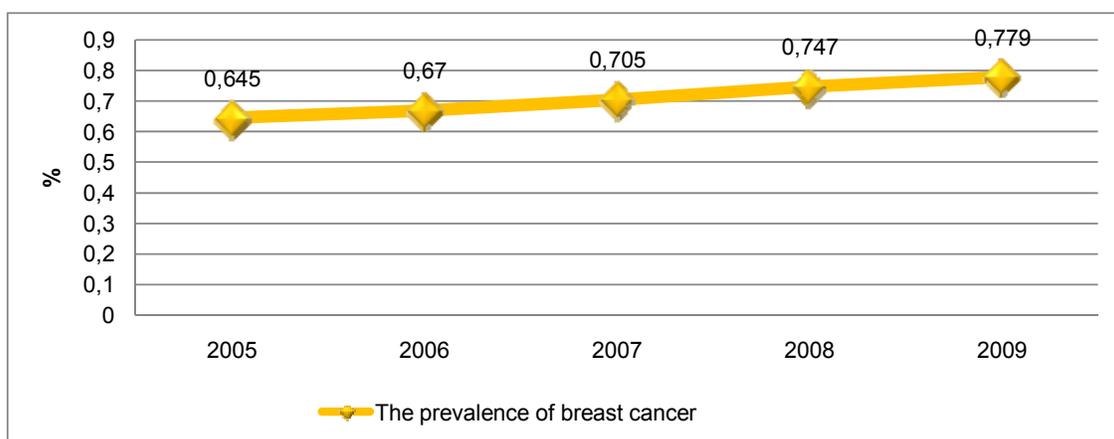


Fig. 7 The prevalence of breast cancer in women, Arad County

The comparison between the number of women with breast cancer recorded at Arad and the female population in the county gives the prevalence of this disease. This statistical analysis is important, especially when we find that in absolute numbers of female population is declining in 2005-2009, and in return the number of women with breast cancer who were registered with cancer is increasing (Fig. 7).

CONCLUSIONS

The increasing of the number of new cases per year and the incidence of breast cancer in

the last 11 years is significant; therefore, it is clear need for screening programs for early detection of this disease.

The program is necessary because the dynamics of socio-economic and political life during these years of transition involves a series of stressors, too few studies in the literature of our country. The comparative analysis allows us to point out certain aspects.

Medically speaking, it is possible that we have a better educated female population in Arad.

It is possible that the urban areas provide aggressive risk factors more than in rural

areas, which would explain the higher number of cases of breast cancer disease.

The domestic violence is higher in urban than in rural areas, where the tradition and the shame are inhibiting factors for violence.

Another explanation of the two contrary trends could be related to the dynamics of increasingly sharp political, social and economic life, the uncertainty of tomorrow, rising unemployment, etc., leading to decreased quality of life and thus increase number of illnesses.

The distribution of cases by stage of disease reveals the higher percentage of advanced stage (64%) indicates a clear failure in cancer health education of the Arad County population.

Other possible causes: the lack of money and a subjective question arising from those referred to in paragraph anterior, namely the fear of doctors, the diagnosis etc.

REFERENCES

- Bălănescu I., Al. Blidaru: *Tratat de patologie chirurgicală*; sub redacția Angelescu N., I : 1187 – 1207, Editura Medicală, București, 2003.
- Colditz G.A.: *Epidemiology of Breast Cancer*. *Cancer*, 1993, 71:1480 - 1489
- Drugan T, Achimaș A, Țigan Ș. *Biostatistică*. Editura SRIMA. Cluj-Napoca, 2005.
- Kelsey M.M., Gammon M.D.: *The epidemiology of breast cancer*. *Cancer J. for Clin.* 1990, 1:2228 – 2240
- Landrison G., Delahaye F: *Cercetarea clinică de la idee la publicare*, Editura Dan, 2001.
- Lippman M.E. : *Epidemiology of Breast Cancer*. In *Diagnosis and Management of Breast Cancer* sub redacția lui Lippman M.E., Lichter A.S., Danforth D.N., Ed. W.B. Saunders Co., 1988, pag. 47 - 55
- Mazilu, V., Ghelase, S.T.M., Badea, P., Ghelase, F., Vilcea, V. - *Aspecte epidemiologice în cancerul mamar*. *Chirurgia (Bucur.)*, 2003, 98:319.
- Morris P.J., R.A. Malt: *Textbook of Surgery*; I : 789 – 828, Editura Oxford University Press, N.Y, 1994.

Țigan S, Achimaș A, Drugan T. *Curs de Informatică și Statistică Medicală*. Editura SRIMA, Cluj-Napoca, 2001.

Ghid de management al cancerului mamar, Publicat în Monitorul Oficial, Partea I nr. 608bis din 03/09/2009

Global Cancer Facts and Figures 2007, American Cancer Society.