



Research Article

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## Situation of Breast Cancer in Albania

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### **Abstract**

**Objective:** *To give a view of breast cancer in Albania and its evolution and treatment in the last years.*

**Methods and results:** *Albania is a small country situated in the Balkan Peninsula, Southern Eastern Europe. Tirana is the capital city of Albania. Albania’s population is 2.83 million inhabitants and women account for 50.2 % of the total population. In 2019, the total number of new cancer cases in Albania was 6,326 with an incidence of 221.6 per 100,000 population. The most frequent cancers diagnosed in Albania are lung, breast and skin cancers. These cancers together account for almost 40% of all new cancer cases reported by the health system.*

*During 2016 – 2019 there were reported every year around 700 new breast cancer cases with an incidence of about 50 cases/100,000 women. In 2019 there were reported 719 new cases with an incidence of 50.3 cases/100,000 women. The incidence of breast cancer in Albania increased by 9.3% from 2015 to 2019. The latest data available are in 2019 by the Institute of Public Health.*

**Conclusion:** *Breast cancer is the main cancer in the female Albanian population, and for the treatment of this disease has been done years a lot of effort and introduce new techniques in chemotherapy, radiotherapy and surgery. The important in this treatment is the multidisciplinary team decision.*

**Keywords:** *breast, cancer, Albania.*

## Background

Albania is a small country situated in the Balkan Peninsula, Southern Eastern Europe. Tirana is the capital city of Albania. Albania's population is 2.83 million inhabitants and women account for 50.2 % of the total population. There were 28,075 births in 2020 (28,561 births in 2019), with a sex ratio at birth was 1:1.07, meaning that for every 100 born girls, 107 boys were born. The Total Fertility Rate (TFR) was 1.34 children and life expectancy at birth was 75.2 years for men and 79.6 for women in 2020. The total number of deaths in Albania was 27,605 deaths in 2020 (21,937 deaths in 2019). [1]

In 2018, the Health Care Services Operator (HCSO) was established in Albania. The mission of HCSO is to provide primary and secondary (hospital) health care services. HCSO has a Central Directorate, 4 Regional Directorates of the Health Care Services and 36 branches of the Local Health Care Units in all districts of Albania. [2]

The Institute of Public Health (IPH) is the National Center for research, training, technical expertise, and reference in the field of public health and also IPH is the National Center for quality control and safety of public health laboratories. The national cancer registry is managed and led by IPH. [3]

Both institutions, IPH and HCSO, are under the Ministry of Health and Social Protection.

## Source on cancer data

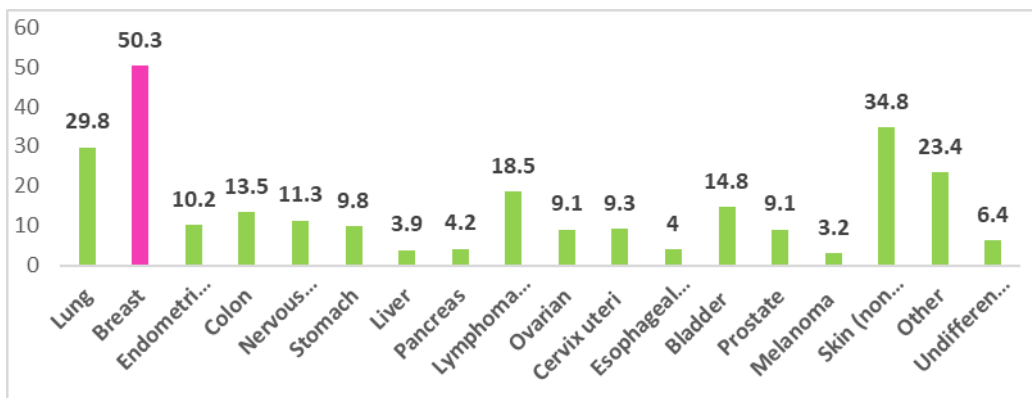
The Albanian information system on cancer is based on:

- National Cancer Register [hospital based – mandatory report of new cases (incidence)]: data from IPH
- Family physician's register – primary health care centers (prevalent cases): data from National Health Care Insurance Fund (NHCIF)
- Mortality data collected by the National Institute of Statistics (INSTAT)

**Cancer data in Albania [4]**

In 2019, the total number of new cancer cases in Albania was 6,326 with an incidence of 221.6 per 100,000 population. The most frequent cancers diagnosed in Albania are lung, breast and skin cancers. These cancers together account for almost 40% of all new cancer cases reported by the health system. Melanoma accounts for 1% of all cancers diagnosed in Albania. In 2019, the incidence of lung cancer in Albania was 29.8 per 100,000 population (850 new cases), for breast cancer it was 50.3 per 100,000 women (719 new cases) and for skin cancers (non-melanoma) it was 34.8 per 100,000 population (994 new cases). The incidence of melanoma, in 2019, was 3.2 per 100,000 population (91 new cases).

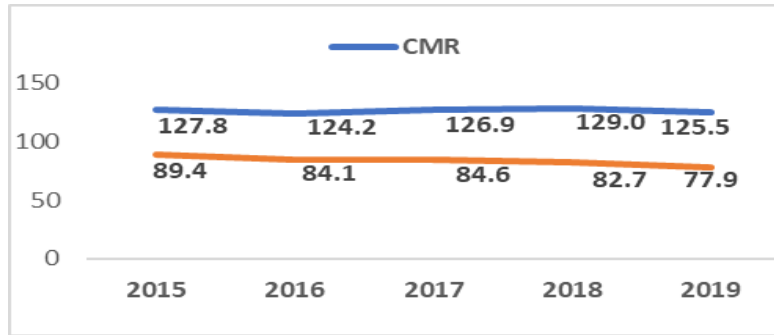
**Figure 1.** Cancer Incidence (per 100,000 inhabitants) by organ site, Albania, 2019



In 2019, the incidence of cancer was higher among males than females (249.6 and 193.8 cases per 100,000 population, respectively). In the last three years, the incidence of cancers in men has been consistently higher than in women. Tirana, Gjirokastra, Fier and Berat were the regions with the highest cancer incidence.

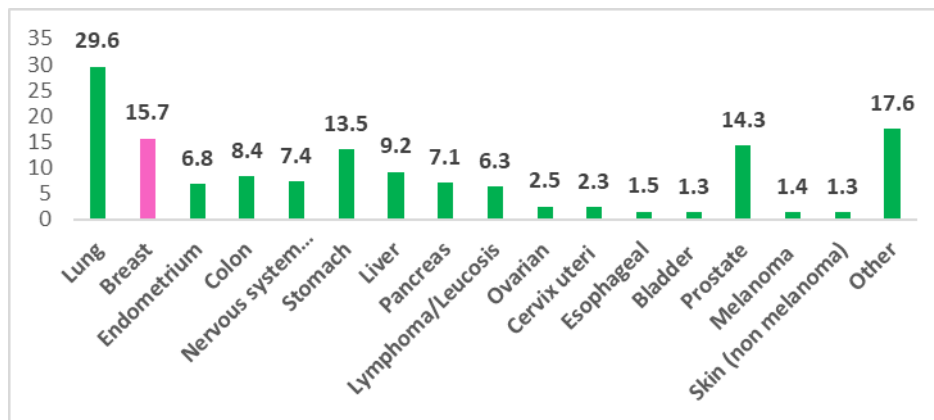
The cancer crude mortality rate (CMR) has remained practically the same between 2015 and 2019, but the standardized mortality rate (SMR) for this period decreased by almost 13% (Figure 2). In 2019, the SMR (according to WHO standard population) from all cancers was 77.9 per 100,000 population. In 2015 the median age of death from all types of cancers was 68 years old, and in 2019 it was 70 years old. The mortality rate from cancer was higher in men aged 65+ compared to women, but the opposite was observed among those aged less than 65 years.

**Figure 2.** Crude and Standardized Mortality Rate from all cancers (per 100,000 inhabitants), in Albania, 2015-2019



In 2019, lung, breast, prostate and stomach cancer showed the highest mortality rates in Albania (Figure 3).

**Figure 3.** Crude Mortality Rate from cancers, by organ site, per 100,000 population, in Albania, 2015-2019



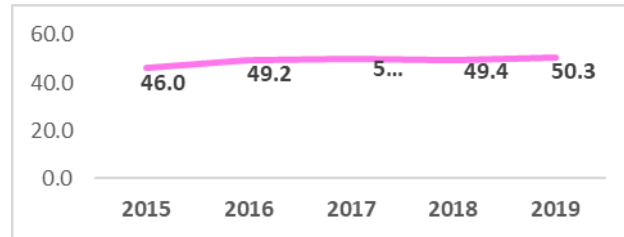
### Breast cancer in Albania

Breast cancer can affect men as well, but the risk in men is about 100 times lower than among women: every year in Albania only 5-10 men are diagnosed with breast cancer; hence breast cancer data in Albania refer only to women. In Albania, the reference center for the diagnosis and treatment of breast cancer is "Nene Tereza" University Hospital Center, the Oncology Hospital, which also functions as a breast reference center at the national level. Regional hospitals and private hospitals diagnose and treat a very low percentage of new cases of breast cancer. During 2016 – 2019 there

were reported every year around 700 new breast cancer cases with an incidence of about 50 cases/100,000 women. In 2019 there were reported 719 new cases with an incidence of 50.3 cases/100,000 women. During 2015-2019, the regions with the highest incidence of breast cancer were Fier, Korçë, Tirana and Berat (63.8, 57.9, 50.9 and 50.7 cases per 100,000 women, respectively).

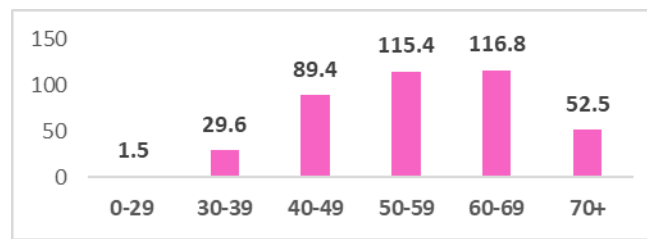
The incidence of breast cancer in Albania increased by 9.3% from 2015 to 2019 (Figure 4).

**Figure 4.** Incidence rate (/100,000 women) of breast cancer for the period 2015-2019



The risk of breast cancer gradually increases with age, with the highest risk peaking at the age group of 50-69 years. Starting from the age of 20, this risk for breast cancer is very low but still exists, but the majority of cases (80%) are diagnosed among women aged 45+ years (Figure 5).

**Figure 5.** Average annual incidence (/100,000 women) of breast cancer by age for the period 2015-2019



Breast cancer-related hospitalizations have increased from 2015 to 2018 with a slight decrease in 2019. In 2019 there were 41% more hospitalizations from breast cancer compared to 2015, while the increase in incidence was only 9.3%.

Since 2014, there has been an increase in the number of mammographic examinations performed throughout the country (Table 1.)

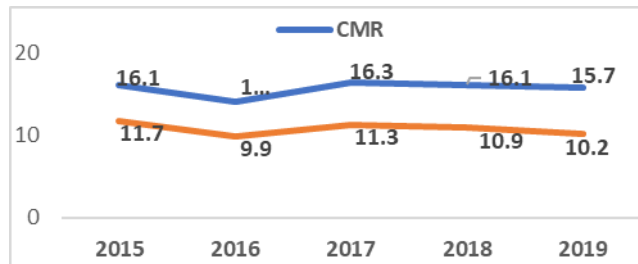
**Table 1.** Number of mammographic examinations performed in Albania during 2014-2018

Type of Mammography	2014	2015	2016	2017	2018
Stationary mammography	5216	5717	4302	6340	10513
Mobile mammography	0	4863	4535	4053	5351
Total	5216	10580	8837	10393	15864

Breast cancer is the leading cause of cancer deaths in Albanian women, accounting for about 17% of all cancer cases in women, and 6.3% of total cancer deaths.

The standardized mortality rate from breast cancer has decreased by around 13% from 2015 to 2019 (Figure 6).

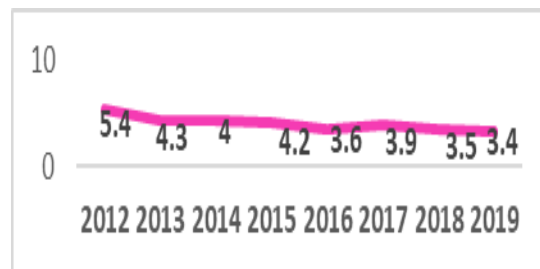
**Figure 6.** Crude mortality rate (CDR) and standardized mortality rate (SDR) (/100,000 women) from breast cancer, Albania, 2015-2019



In 2015 the median age at death from breast cancer was 61 years, and in 2019 it was 64 years.

The crude mortality rate from breast cancer among women under 50 years old has decreased by 37% from 2012 to 2019 (5.4 and 3.4 per 100,000 women respectively) (Figure 7).

**Figure 7.** Crude Mortality Rate (/100,000 women) from breast cancer among women under 50 years old, in Albania, 2012-2019



In the years the treatment of breast cancer has changed spectacularly at any component of the treatment: chemotherapy, radiotherapy and surgery.

***In chemotherapy*** Until 80,' the only treatment was mono chemotherapy like endoxan, vinblastine and 5 Fu. The use was in adjuvant and metastatic settings. In 1981- the era of CMF regimen in a certain number of patients and in 1983 was firstly introduced CAF. An important step was made in 2004 when taxane was firstly introduced, their use was at the beginning in second-line therapy after anthracycline failure and also in the adjuvant setting in the high-risk patient (locally advanced disease) in combination with anthracycline therapy. Around 2005-2006 in a small number of patients target therapy with Herceptin was introduced and in 2006 was introduced capecitabine in metastatic disease especially in liver Mets in heavily pretreated patients. In 1984-1985 was introduced tamoxifen, 2001 Letrozole (Femara) was registered and in 2009 begin the treatment with anastrozole in postmenopausal women or in premenopausal women in combination with LHRH agonists.

***In radiotherapy*** In 1965 starts the construction of the Radiation Therapy Department with only x-ray contact therapy machines, and in the same year was installed the first Cobalt 60 unit Jupiter-Junior F (Barazzetti) in addition to other devices such as Röntgen therapy (x-ray therapy) Shaul, Picker. In 1966 started the treatment of some pathologies like Hodgkin Lymphomas and Breast Cancer. New Cobalt machine Alcyon II (CGR- MeV), with source radioactivity 6000 curie was installed and 2.5 TPS – called ROCS, started to be used in 1991. In 2002 Orthovoltage Unit 300kV was installed and in 2004 installation of - the Theratron Elite 80,(source radioactivity 9.000 curie). In 2006 Installation of CT\_Simulation Emotion - Siemens, Focal PC and D TPS-Xio. In 2008 Installation of the second Co-60 unit, Equinox. In 2012 Two new TPS Xio, Linear Akselerator (6,10 & 18 MV) with technic 3DcRT and Linear Akselerator (6,10 & 18 MV) with technic 3DcRT, IGRT & IMRT.

***In surgery***, The early times (1974) started Radical Modified Mastectomy (Madden, Pattey) and radical axillary dissection, during the year's (2006) was introduce Breast-Conserving Surgery for the treatment of early breast cancer and Sentinel Node Biopsy (2007) with blue diet has emerged as a method to avoid radical axillary clearance for negative axillary node. In 2010 was started with simple techniques of oncoplastic surgery like Madeleine Lejour and Benelli technique and use of latissimus flap. After 2019 was introduced the use of immediate reconstruction of the breast during surgery in patients with breast cancer, with techniques like Nipple Sparing Mastectomy, Skin Sparing Mastectomy and use of prosthesis and mesh (ADM), even Lymphonode Sentinel Biopsy using radioisotope.

The important in the treatment of patients with breast cancer in the Oncology Hospital is the decision made in the Multi-Disciplinary Team, where are present all-important actors in this act like breast surgeon, radiologist, chemotherapist, radiotherapist, anatomopathological, dedicated nurse, social worker, psychologist, etc. [5]

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