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Hospital-based registries of women with breast cancer from the oncology network of Espírito Santo, Brazil

Registros hospitalares de mulheres com câncer de mama da rede oncológica do Espírito Santo, Brasil

Registros hospitalarios de mujeres con cáncer de mama de la red de oncología de Espírito Santo, Brasil

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Abstract

Objective: To describe the cases of women with breast cancer (BC) and identify the epidemiological profile of the cases reported in the Hospital-based Cancer Registries (HCR) of the Oncological Care Network of Espírito Santo (OCN/ES). **Methods:** This is a hospital-based descriptive observational study, based on secondary data retrieved via the HCR Tumor Registration Form of the eight hospitals that comprising the OCN/ES, between 2000-2020. **Results:** There were 16,844 case records of women with breast cancer in this historical series. The median age of the women was 52 years. The age group with the highest number of cases (54.0%) was 41-60 years, 57.42% were brown, 51.70% married, and 30.80% had incomplete elementary school, residents of the Metropolitan region of the state (81.70%). Most cases were analytical (75.42%), referred from SUS (59.70%), had no occurrence of more than one primary tumor (94.21%), the most common histological type was infiltrating duct carcinoma (76.03%), and stage II (6.75%), with multimodal treatments (60.09%). **Conclusion:** The findings point to an increasing trend in the occurrence of breast cancer over the years in OCN/ES, occurring mainly in older, brown women and women with low education, in stage II of the disease.

Descriptors: Oncology; Breast Neoplasms; Epidemiology; Public Health; Women's Health.

Whats is already known on this?
Breast cancer is the most common type of malignancy in women, and sociodemographic characteristics are directly linked to the prevalence of this type of cancer.

What this study adds?
The findings point to a growing trend in the occurrence of breast cancer over the years in OCN/ES, especially in older, brown women and women with low education.

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Resumo

Objetivo: *Descrever os casos de mulheres com câncer de mama (CM) e identificar o perfil epidemiológico dos casos notificados nos Registros Hospitalares de Câncer (RHC) da Rede de Atenção Oncológica do Espírito Santo (RAO/ES).* ***Métodos****: Trata-se de um estudo observacional descritivo, de base hospitalar, a partir de dados secundários recuperados via Ficha de Registro do Tumor dos RHC dos oito hospitais que compõem a RAO/ES entre 2000-2020.* ***Resultados****: Foram 16.844 registros de casos de mulheres com câncer de mama nessa série histórica. A idade média das mulheres foi de 55 anos. A faixa etária com maior número de casos (54,0%) foi a de 41-60 anos, 57,42% eram pardas, 51,70% casadas, 30,80% tinham ensino fundamental incompleto, residentes da região Metropolitana do estado (81,70%). A maior parte dos casos eram analíticos (75,42%), encaminhadas do SUS (59,70%), não tiveram ocorrência de mais de um tumor primário (94,21%), tipo histológico mais comum foi o carcinoma de ductos infiltrantes (76,03%) e estadiamento II (6,75%), com tratamentos multimodais (60,09%).* ***Conclusão:*** *Os achados apontam para uma tendência crescente na ocorrência de câncer de mama ao longo dos anos na RAO/ES, ocorrendo principalmente em mulheres idosas, pardas e de baixa escolaridade, em estágio II da doença.*

Descritores: *Oncologia; Neoplasias da Mama; Epidemiologia; Saúde Pública; Saúde da Mulher.*

Resumén

Objetivo: *Describir casos de mujeres con cáncer de mama (CM) e identificar el perfil epidemiológico de los casos notificados en el Registro Hospitalario de Cáncer (RHC) de la Red de Atención Oncológica de Espírito Santo (RAO/ES).* ***Métodos:*** *Se trata de un estudio observacional descriptivo de ámbito hospitalario, basado en datos secundarios recuperados a través del Formulario de Registro de Tumores del RHC de los ocho hospitales que integran la RAO/ES, entre 2000-2020.* ***Resultados:*** *Se registraron 16.844 casos de mujeres con cáncer de mama en esta serie histórica. La edad promedio de las mujeres fue de 55 años. El grupo etario con mayor número de casos (54,0%) fue el de 41 a 60 años, el 57,42% eran mestizas/mulatas, 51,70% casadas, el 30,80% tenían educación primaria incompleta y residían en la región Metropolitana del Estado (81,70%). La mayoría de los casos fueron analíticos (75,42%), remitidos desde el SUS (59,70%); no hubo aparición de más de un tumor primario (94,21%), el tipo histológico más frecuente fue el carcinoma ductal infiltrante (76,03%) y estadio II. (6,75%), con tratamientos multimodales (60,09%).* ***Conclusión:*** *Los hallazgos apuntan a una tendencia creciente en la aparición de cáncer de mama a lo largo de los años en RAO/ES, ocurriendo principalmente en mujeres ancianas, mestizas/mulatas y de bajo nivel educativo, en el estadio II de la enfermedad.*

Descriptores: *Oncología; Neoplasias de la Mama; Epidemiología; Salud Pública; Salud de la Mujer.*

INTRODUCTION

Worldwide, non-communicable diseases (NCDs) already occupy the first position as the leading cause of morbidity and mortality.[1] The cancer mortality rate is 41 million people each year, equivalent to 71% of all deaths,[2-3] which depicts a reality that corroborates the demographic, epidemiological and nutritional transition, in addition to the increase in risk factors for cancer. Every year, 15 million people, including 2.2 million in the Region of the Americas, die from a CNCD between the ages of 30 and 69, more than 85% of these deaths occurring in low- and middle-income countries. Tobacco consumption, lack of physical activity, harmful use of alcohol and unhealthy diets increase the risk of dying from CNCDs.[1-3]

In addition, the COVID-19 pandemic has contributed to worsening the overall picture, causing delays in the diagnosis and treatment of malignant neoplasms. These factors may have contributed to an increase in cases of cancer in advanced stages and, consequently, in the mortality rate.[1]

In Brazil, the National Cancer Institute (INCA) estimated about 704,000 new cases of cancer for the three-year period 2023-2025.[4] Excluding non-melanoma skin cancer, female breast cancers account for 15% of new cases of malignancies. In relation to 2020, the global mortality rate from breast cancer, adjusted for the world population, was 11.84 deaths per 100,000 women.[4]

Breast cancer is the type of cancer with the highest incidence in women (excluding non-melanoma skin cancer) in all regions in Brazil. There are 61.61 new cases per 100,000 women. The southeast region has the highest estimated risk, with 81.06 per 100,000 inhabitants.[4] In the state of Espírito Santo, about 790 cases of female breast cancer were estimated for 2023.[4]

In the Southeast and South regions of Brazil, the highest rates were 12.64 and 12.79 deaths per 100,000 women, respectively.[4] Women over the age of 50 are one of the main risk factors for the development of breast cancer; however, there are some other factors of great importance for the onset of breast cancer, such as genetic factors (mutations in the BRCA1 and BRCA2 genes), positive family history of cancer, late menopause, obesity, and frequent exposures to ionizing radiation.[5]

The increased incidence of breast cancer in advanced stages is a significant barrier that can be overcome with emphasis on early diagnosis and timely initiation of personalized treatments, with multidisciplinary teams [6-7] requiring public health intervention strategies, with emphasis on Primary Health Care services. The availability of public subsidies that consider epidemiological data on the social determinants of health for the development of breast cancer is essential, as these social determinants constitute relevant risk factors for its development.[3]

Thus, the objective of this article is to describe the cases of women with breast cancer and to identify the epidemiological profile of the cases notified in the Hospital-based Cancer Registries of the Oncology Care Network of Espírito Santo.

METHODS

This is a hospital-based descriptive observational study, based on the secondary database of those recovered from the HCR Tumor Registration Form of the eight hospitals that make up the Oncological Care Network of Espírito Santo, between 2000 and 2020.

The data used were retrieved from a secondary database of the Hospital-based Cancer Registries (HCR) of the eight hospitals of the Oncology Network of the state of Espírito Santo, located in the southeastern region of Brazil. The Oncology Care Network of Espírito Santo is divided between the three health regions, namely: I) Central/North with the Hospital Rio Doce (HRD) and Hospital São José (HSJ); II) Metropolitan Region with the Hospitals Santa Rita de Cássia (HSRC) - the only Center of High Complexity in Oncology (CACON) in the state, Hospital Santa Casa de Misericórdia de Vitória (HSCV), Hospital Universitário Cassiano Antônio Moraes (HUCAM), Hospital Evangélico de Vila Velha (HEVV), Hospital Estadual Infantil Nossa Senhora da Glória; and III) South Region, the Hospital Evangélico de Cachoeiro de Itapemirim (HECI).[8-9]

All analytical and non-analytical cases of women over the age of 18 years with a diagnosis of breast cancer were included, based on the International Statistical Classification of Diseases and Related Health Problems - ICD 10 "C50: Malignant breast neoplasm", and who were diagnosed via anatomical-pathological examination, who were admitted to any hospitals that make up the State Oncology Network, being only via SUS (public) and non-SUS (private network) and who were registered in the Health Information System – Hospital Cancer Registry (SIS-HCR) in the evaluated period (history series from 2000 to 2020). The exclusion criteria were: male breast cancer, and those who did not have breast cancer as a primary tumor. Thus, a total of 16,985 women diagnosed with breast cancer from 2000 to 2020 were extracted from the HCR database.

All data were retrieved via HCR tumor registry sheets from said hospitals. The tumor registration form used by hospital HCRs has the function of gathering information from the medical record, such as individual sociodemographic and tumor characteristics, in addition to providing a summary of the case and as a data entry document to enter information into the computerized databases of SisRHC.[10]

The epidemiological variables used to analyze the epidemiological profile were obtained from the tumor registration form of the Integrator of the Brazilian Cancer Hospital Registry (SisRHC)(10) which are: (1) sex; (2) age; (3) place of birth; (4) race/skin color; (5) education; (6) occupation; (7) origin; (8) marital status; (9) history of alcohol consumption; (10) history of tobacco consumption; (11) date of first visit to the hospital; (12) date of first diagnosis of the tumor; (13) previous diagnosis and treatment; (14) most important basis for tumor diagnosis; (15) primary tumor location; (16) detailed primary tumor location; (17) histological type of primary tumor; (18) TNM staging; (19) clinical tumor staging by group (TNM); (20) date of start of treatment; (21) main reason for not performing antineoplastic treatment in the hospital; (22) first treatment received in the hospital; (23) disease status at the end of the first treatment in the hospital; (24) date of death; (25) family history of cancer; (26) origin of referral; (27) laterality of tumor; (28) occurrence of more than one primary tumor; (29) first-care clinic; (30) first-treatment clinic; (31) Tests relevant to the diagnosis and planning of tumor therapy. Data collection took place between April and July 2018.

Data were analyzed descriptively with univariate analysis. Qualitative variables were presented as distribution of absolute (n) and relative (%) frequencies; and for quantitative variables, mean and median values, standard deviations, and maximum and minimum values were calculated. Demographics and specific clinical characteristics related to breast cancer were calculated using IBM SPSS Statistics for IMac software, Version 28.0 (IBM Corp., Armonk, NY). The Mann-Kendall trend test was used to test the historical series of the number of cases per year.

Ethical approval was obtained from the Research Ethics Committee of the Federal University of Espírito Santo (opinion number: 3.831.617). Also, we have obtained the approval and authorization of the State Department of Health of Espírito Santo (SESA), to collect secondary data and restricted data related to this research, in order to meet the recommendations into Resolution 466/12 of the National Health Council and the Guidelines and Regulatory Standards for Research involving Human Beings in Brazil.

RESULTS

We analyzed 16,844 case records of women with breast cancer in the historical series from 2000 to 2020 throughout the Oncological Care Network of Espírito Santo. Table 1 shows the frequency of cases of female breast cancer from the years of the first consultation. It is possible to observe a gradual increase in the frequency of cases over the years of the time series, being the year 2000 with the lowest number of cases of first consultation (2.0%), already in 2010 the number of cases increased (4.6%), and almost at the end of the time series, the year 2019 had the highest number of cases (7.7%).

Table 1. Distribution of the number of cases of female breast cancer recorded between 2000 and 2020 per year of the first visit. Vitória, ES, Brazil, 2023.

Year of first consultation	N (%)
2000	341 (2,0)
2001	351 (2,1)
2002	401 (2,4)
2003	446 (2,6)
2004	503 (3,0)
2005	509 (3,0)
2006	649 (3,9)
2007	694 (4,1)
2008	695(4,1)
2009	742 (4,4)
2010	771 (4,6)
2011	921 (5,5)
2012	923 (5,5)
2013	839 (5,0)
2014	979 (5,8)
2015	1023 (6,1)
2016	1175 (7,0)
2017	1166 (6,9)
2018	1180 (7,0)
2019	1290 (7,7)
2020	1246 (7,4)

Source: research data (2023).

Table 2 shows the data regarding the distribution of female breast cancer cases for the sociodemographic variables: age, age group, race/color, education, marital status and State of residence. The mean age of these women was 55 years, and the age group of women aged 18 to 40 years, with 13.1% of cases, on the other hand, women aged 41 to 60 years, accounted for 54.5% of the sample. Regarding race/color, brown women represented 57.4%, white 31.6%, black 3.7%, yellow 0.4% and indigenous with 0.5%. Most women had incomplete primary education (30.8%), and only 0.8% of women had completed higher education. More than half of the women were married (51.7%). Most of the sample was resident of some city in the state of Espírito Santo (97.7%), where (81.70%) are residents of the metropolitan region of the state, with the municipality of Vila Velha representing the largest number of cases (14.1%), followed by the capital Vitória with 12.7% of cases.

Table 2. Distribution of the number of cases of female breast cancer diagnosed from 2000 to 2020, according to sociodemographic variables in the HCR tumor registration form. Vitória, ES, Brazil, 2023.

	N (%)
Age	
Mean (Standard deviation)	55 (±15)
Median	54
Age group	

18-40 years	2204 (13.1)
41- 60 years	9151 (54.5)
> 60 years	5489 (32.6)
Race/skin color	
White	5316 (31.6)
Black	617 (3.7)
Yellow	75 (0.4)
Brown	9661 (57.4)
Indigenous	77 (0.5)
No information	1098 (6.5)
Education	
Illiterate	1022 (6.1)
Incomplete Primary	5189 (30.8)
Complete primary	1997 (11.9)
Complete high school	3414 (20.3)
Incomplete university education	143 (0.8)
Complete University education	1532 (9.1)
No information	3547 (21.1)
Marital status	
Single	3561 (21.1)
Married	8705 (51.7)
Widow/widower	2271 (13.5)
Divorced	1402 (8.3)
Consensual union	206 (1.2)
No information	699 (4.1)
State of residence	
Espírito Santo	16454 (97.7)
Other states	366 (2.3)
No information	24 (0.1)

Source: research data (2023).

The data presented in Table 3 demonstrate the frequency and percentage of women with breast cancer according to the clinical variables contained in the HCR tumor registration form. The vast majority (75.4%) of these women were classified as analytical cases, when compared to non-analytical cases (24.58%). More than half of the records (59.87%) had SUS as the origin of the referral; and 94.2% of the women did not have more than one primary tumor, almost half (48.7%) had the anatomopathological examination as the most relevant for diagnosis and treatment of the tumor. Regarding the laterality of the tumor, the highest frequency occurred in the left breast (48.1%), of which the clinical staging of the tumor (TNM) was II in 26.7% of the cases, while the data without information for this variable were 26.5%. Regarding the most important basis for tumor diagnosis, primary tumor histology was the most frequent (96%) and the histological type with the highest number of cases was infiltrating duct carcinoma (76%). Regarding the treatments received, about 60% of women underwent multimodal treatments.

Table 3. Distribution of the number of cases of female breast cancer diagnosed from 2000 to 2020, according to clinical variables in the HCR tumor registration form. Vitória, ES, Brazil, 2023.

	n (%)
Type of case	
Analytical	12703 (75.4)

Non-analytical	414 (24.5)
Referral source	
SUS	10084 (59.8)
Non-SUS	3974 (23.5)
No information	2786 (15.5)
Occurrence of one more primary tumor	
No information	292 (1.7)
No	15868 (94.2)
Yes	644 (3.8)
Doubtful	40 (0.2)
Previous diagnosis and treatment	
No diagnosis/No treatment	7420 (44.0)
With diagnosis /No treatment	4276 (25.3)
With diagnosis/With treatment	490 (29.1)
Other	76 (0.4)
No information	171 (1.0)
Tests relevant to diagnosis and planning of tumor therapy	
Clinical examination and clinical pathology	112 (0.6)
Exams by image	688 (4.0)
Endoscopy and exploratory surgery	67 (0.4)
Pathological anatomy	8213 (48.7)
Tumor markers	6689 (39.7)
Not applicable	7 (0.04)
No information	1068 (6.3)
Most important test for tumor diagnosis	
Clinic	20 (0.1)
Clinical Research	17 (0.1)
Imaging exam	401 (2.3)
Tumor markers	15 (0.09)
Cytology	43 (0.2)
Histology of metastasis	30 (0.1)
Primary tumor histology	16109 (95.6)
No information	209 (1.2)
Histological type of primary tumor	
Non-infiltrating intraductal carcinoma NOS	1102 (6.5)
Infiltrating duct carcinoma	12807 (76.0)
Lobular carcinoma NOS	879 (5.2)
Other types	2056 (12.2)
Laterality	
Right	7617 (45.2)
Left	8097 (48.0)
Bilateral	189 (1.1)
Not applicable	234 (1.3)
No information	707 (4.2)
Clinical tumor staging (TNM) Tumor-Node-Metastasis	
In-situ	610 (3.6)
I	2789 (16.5)
II	4505 (26.7)
III	3013 (17.8)
IV	1301 (7.7)
Other staging	163 (0.9)
No information	4463 (26.5)
First treatment received in hospital	
None	745 (4.4)
Surgery	1774 (10.5)

Radiotherapy	2154 (12.7)
Chemotherapy	1094 (6.4)
Hormone therapy	767 (4.5)
Immunotherapy	1 (0.01)
Other	70 (0.4)
No information	118 (0.7)
Multimodal treatments *	10121 (60.0)

Source: research data (2023).

*Multimodal treatments include the combination of different treatments (Sur + Sur, Sur + RXT, Sur + CHT, Sur + Ht, RXT + RXT, RXT + CHT, CHT + BMT, HT + HT, SUR + SUR + SUR, Sur + RXT + CHT, Sur + CHT + HT, Sur + HT + RXT, RXT + RXT + RXT, RXT + RXT + CHT, CHT + CHT + CHT, HT + HT + HT, Sur + CHT + HT + RXT) – Surgery (Sur); chemotherapy (CHT); radiotherapy (RXT); hormone therapy (HT); bone marrow transplant (BMT). NOS: No other specification.

Table 4 shows data for the year of the first cancer diagnoses in relation to the age groups of women. A gradual increase in the number of cases was observed for each year of the first diagnosis in all age groups. Regarding women who had their first diagnosis in 2000, the highest number of cases (n=201) for those aged 41 to 60 years, differing from women aged 60 years or older (n=103) and 18 to 40 years (n=54). The difference in the number of cases for each age group was maintained over the years of the entire time series. As observed in 2020, where the highest number of diagnosed cases was in women between 41 and 60 years of age (n=444), followed by women over 60 years of age (n=317) and women from 18 to 40 years of age (120).

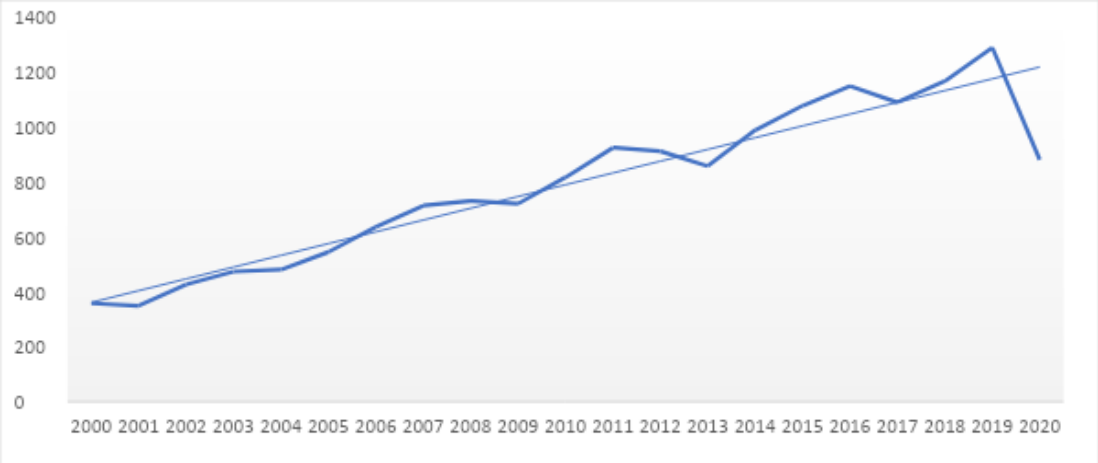
Table 4. Percentage of cases of female breast cancer diagnosed from 2000 to 2020, recorded in HCRs, according to age group. Vitória, ES, Brazil, 2023.

	Age group		
Year of first diagnosis	**> 60 years**	**18-40 years**	**41-60 years**
	n	**n**	**n**
2000	103	54	201
2001	89	50	210
2002	147	58	222
2003	112	86	276
2004	148	72	261
2005	142	81	322
2006	175	81	380
2007	217	94	403
2008	239	102	390
2009	197	91	433
2010	279	105	433
2011	304	111	510
2012	245	108	559
2013	308	107	443
2014	349	92	548
2015	375	142	561
2016	391	155	603
2017	398	135	557
2018	417	136	614
2019	436	181	672
2020	317	120	444

Source: research data (2023).

Figure 1 graphically depicts the evolution of the number of cases in the first year of diagnosis. It is possible to observe an increasing trend in the number of cases in the time series ($p<0.001$ by the Mann-Kendall trend test).

Figure 1. Historical series of the number of cases of female breast cancer diagnosed from 2000 to 2020, recorded in the HCRs of the entire Oncology Care Network. Vitória, ES, Brazil, 2023.



Source: research data (2023).

DISCUSSION

The present study depicts the epidemiological profile of women with breast cancer, based on sociodemographic and clinical data. Breast cancer already represents 18% to 28% of all cancers worldwide[1,3] and the scientific literature already reports the difference in prognosis between the different ethnic-racial groups.[11-12] Racial disparities are a consequence of longstanding health inequities and researchers point out that the factors that influence social disparities in cancer patients are directly linked to access to prevention, early detection, diagnosis, treatment, monitoring and quality of life, and finally, survival and mortality.[11-12]

Asian and white women have the highest incidence, being 10% higher than in black women. However, Asian and black women have the highest cancer mortality rates 16% and 12% higher, respectively, compared to white women.[1,3] Two studies using data from the Surveillance, Epidemiology, and End Results Program (SEER) of the National Cancer Institute (NCI) analyzed trends in breast cancer in the United States at different periods.[11-12] The first study showed an incidence rate of breast cancer of 140.8 per 100,000 in white women, compared to a rate of 121.7 new cases in African women.[11] The second study, on the other hand, showed the highest incidence rate of breast cancer throughout the time series in white women, maintaining a frequency of more than 70% in all years.[13] Compared to the present study, the ethnic group with the highest frequency of cases throughout the period were brown women, followed by black women.

The mean age of the women in the sample of this study was 55 years, which is in line with a study carried out in another state in Brazil, in which the mean was 56 years.[13] However, in addition to Brazil, in a study carried out in the United States, the mean age was 60 years, however, the data corroborate in relation to the age groups, due to the higher percentages of cases occurring in women over the age of 40 years.(14) These differences are due to the social inequalities existing in Brazil and the United States, mainly due to access to early detection tests, such as mammography, which is highly recommended for women over 40 years of age.[15-16]

Regarding the education variable, the findings of the present study indicate that the highest frequency of breast cancer cases occurred with women with only incomplete elementary school. Unlike other authors, in a prospective cohort, groups with medium and high levels of education had an increased chance of developing breast cancer.[17] In another study, women who had access to university education had a higher incidence of breast cancer.[18] In addition, the literature points to some socioeconomic factors associated with high risk of breast cancer, such as the difference in reproductive factors, use of hormone replacement, access to mammography screening, lifestyle, and access to health systems.[19-20]

Regarding the clinical characteristics of the tumor, the vast majority of cases were referred to SUS. More than 90% of the sample did not have more than one primary tumor. This data is interesting because it is known that patients with a primary tumor have about 10% more risk of developing a secondary tumor.[21]

Anatomopathological examinations, with almost 50% of the cases, were the most relevant for diagnosis and therapeutic planning of the tumor of the cases of this cohort. Laterality is a fact associated with breast cancer, it is already recognized that there is a predilection for the left breast compared to the right, in the incidence of the tumor.[22]A study showed that a large part of the sample (80.9%) with laterality in the left breast was associated with early staging.[23] Some studies report this difference in frequency of the left to right breast due to tissue mass and asymmetry.[24-25]

Tumor markers are biomarkers found in blood, urine, and tissues, and which are elevated may signal the presence of malignant neoplasms. Therefore, the use of biomarkers is essential for early diagnosis and screening.[26] In line with this information, the examination of tumor markers was the second most frequent used in the women context of this study.

The identification of the histological type of the tumor is used as a basis for diagnosis, as morphological and cytological patterns are consistently associated with clinical outcomes. The scientific literature identifies invasive ductal carcinoma as the most frequent in cases of breast cancer (70%-80%), it develops in the lining walls of the milk passage ducts produced in the mammary glands, and extends to the nipples.[27-28] During this investigation, the histological type with the highest number of cases of malignant neoplasm of the breast was infiltrating duct carcinoma, similar to a cross-sectional study [29] conducted in another State of Brazil, in which invasive ductal carcinoma occurred in 84.7% of the sample. In another study similar to the one conducted in the State of Goiânia-Brazil, invasive ductal carcinoma was identified as the most frequent (85.5%).[13]

Initial staging was the most frequent (stage I-16.56% and stage II-26.75%). Breast cancer, when screened and identified early, is associated with a better prognosis for women.[30] In line with the data of this study, in a cross-sectional survey carried out in the United States, type I (42%) was more frequent, followed by type II (25%). In addition, data regarding breast cancer survival at 5 and 10 years was higher for the initial stages, when compared to types III and IV (stage I – 90%, stage II – 83%, stage III – 66%, stage IV – 23%).[31]

The use of curative therapy for stage I to III breast cancers achieves expected results when it is administered until the end of the defined period, in addition to its success depending on the association and multimodal personalization of treatments after definitive diagnosis.[32-33] Regarding the first treatment received in the hospital, multimodal treatments were the most used in our sample (60%). Surgery is as the first treatment with the highest frequency among all multimodal treatments. This occurs in low- and middle-income countries, due to the late diagnosis of cancer, due in part to the low number of screening mammograms.[33] The use of breast-conserving surgery demonstrates better acceptance, due to high quality of life, compared to other types, such as total mastectomy.[34] Regarding isolated treatments, radiotherapy was the most frequent (12.79%) in our cohort. One of the main benefits of adjuvant radiotherapy is to decrease tumor recurrence in the breast, due to local tumor control.[35]

The present study has some limitations, as it is a secondary database, presenting a number of missing observations in important clinical variables, which prevented a better definition of the profile in question. It should be noted that the HCR base has great potential and usefulness for cancer research, as well as to provide subsidies for the planning and evaluation of the hospital unit, in order to contribute to the quality of cancer surveillance, diagnosis, treatment and care and timely monitoring of cancer patients.

It should be noted that the characterization of the epidemiological profile of breast cancer patients in a current historical series throughout the Oncological Care Network of Espírito Santo can be useful to guide the development of public policies in the area of oncology, in order to plan effective measures and actions in cancer surveillance at different levels of health care, aiming to improve women's health care.

CONCLUSION

The findings of the present study point to an increasing trend in the occurrence of breast cancer over the years in the health regions of the state of Espírito Santo. It was observed that this type of cancer mainly affects older, brown women and women low education, in stage II of the disease. Thus, it was possible to identify the sociodemographic and clinical profile of a complete and current historical series of cases of female breast cancer in the entire territory of Espírito Santo belonging to (OCN/ES).

CONTRIBUITIONS

Contributed to the conception or design of the study/research: Pessanha RM, Lopes-Júnior LC. Contributed to data collection: Pessanha RM, Lopes-Júnior LC. Contributed to the analysis and/or interpretation of data: Grippa WR, Pessanha RM, Lopes-Júnior LC. Contributed to article writing or critical review: Grippa WR, Pessanha RM, Lopes-Júnior LC. Final approval of the version to be published: Lopes-Júnior LC.

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