

WOMEN WITH BREAST CANCER ATTENDED IN PUBLIC HOSPITAL FROM MACAPÁ, AMAPÁ: RISK FACTORS

Emílio Daniel Pacheco de Sousa¹

¹ Médico, Universidade Federal do Amapá, Macapá, Brasil

E-mail: emilio.pacheco@hcancerbarretos.com.br Lattes: <http://lattes.cnpq.br/0914980672412957>

ORCID: 0000-0002-4148-1256

Givago da Silva Souza²

² Biólogo, Universidade Federal do Pará, Belém, Brasil

E-mail: givagosouza@ufpa.br Lattes: <http://lattes.cnpq.br/5705421011644718>

ORCID: 0000-0002-4525-3971

Nely Deyse Santos da Mata³

³ Enfermeira, Universidade Federal do Amapá, Macapá, Brasil

E-mail: nelydsmata@gmail.com Lattes: <http://lattes.cnpq.br/0529429570261510>

ORCID: 0000-0002-0245-8141

Marlucilena Pinheiro da Silva⁴

⁴ Enfermeira, Universidade Federal do Amapá, Macapá, Brasil

E-mail: marlucilena@gmail.com Lattes: <http://lattes.cnpq.br/3789934872661445>

ORCID: 0000-0002-8662-9621

José Mauro Secco⁵

⁵ Médico, Universidade Federal do Amapá, Macapá, Brasil

E-mail: jmsecco@uol.com.br Lattes: <http://lattes.cnpq.br/4426366906016869>

ORCID: 0000-0002-4540-678X

ABSTRACT

Breast cancer is a disease of epidemiological concern worldwide, being considered a serious public health problem. Although it is well established that early diagnosis and adequate treatment interfere with mortality rates and the prevalence of cancer, few data are available regarding the descriptive epidemiology of breast cancer in Brazil, as well as in the various states of the federation, as is the State of Amapá. The general objective was to characterize the risk factors of breast cancer patients treated at Hospital de Clínicas Dr. Alberto Lima (HCAL) from January 2012 to December 2017 in the city of Macapá, Amapá. Cases of breast cancer were reviewed, with an analysis of 194 medical records, and the following variables were studied: age, education level, histological type of the neoplasia, age at first delivery, menarche and menopause, breastfeeding time, alcohol intake, smoking, family history of breast cancer in

first-degree relatives. It was noted that the age group most affected was between 41-50 years old and with an education level of elementary education. In these women, the most frequent characteristics were: age at first delivery between 13-20 years, menarche between 10-13 years, menopause from 41-50 years with a significant number of patients at menarche (outside menopause), breastfeeding time between 2-22 and 23-42 months, both intervals with the same number of records; most did not drink alcohol, were not smokers and had no family history of first-degree relatives of breast cancer. In the cases studied, the most frequently diagnosed histological type was invasive ductal carcinoma.

Keywords: Cancer; Mama; Risk factors; Malignant Breast Neoplasm.

INTRODUCTION

The etiology of breast cancer is still unknown, but it is known that, like other cancers, it is multifactorial (American Cancer Society, 2018). The implementation of a breast cancer control policy in the single health system must be able to expand and qualify the screening, guaranteeing the care of cases and reducing mortality (INCA, 2019). It is recommended that screening should start at 40 years of age, including annual mammography and clinical examination, self-examination is optional and is also important (RIBEIRO, 2018).

Conservative treatment associated with new techniques, revolutionary drugs, more accurate and accessible exams, better trained doctors and more aware patients will make breast cancer better controlled and less lethal (INCA, 2019). Patients can be submitted to conservative surgery as the first option, if mastectomy is indicated, immediate reconstruction should always be offered, within the possibilities of each medical service (RIBEIRO, 2018).

The identification of risk factors and characteristics of women with breast cancer, including epidemiology, can facilitate the tracking of subclinical lesions, in addition to helping to form viable proposals to reduce the incidence of breast cancer in the population (PEREIRA, 2016). The absence of this information makes it difficult to evaluate programs aimed at breast cancer and it also makes it impossible for financial and human resources to be allocated according to the needs peculiar to the Brazilian North and Amazon region. Therefore, the present study will seek to describe the risk factors in women who were treated for breast cancer between 2012 and 2017 in the State of Amapá, Brazil.

MATERIAL AND METHODS

The access to the information necessary to carry out the research was done through authorization / acceptance from the institution, signed by the clinical director and by the Term of Commitment to Use of Data (TCUD), signed by the researcher. The study was assessed and approved by the Human Research Ethics Committee of the Federal University of Amapá (UNIFAP) under opinion n. 3,063,020.

This is a retrospective, cross-sectional, descriptive, quantitative study with patients with malignant tumor, from the Mastology sector / High Complexity Assistance Unit in Oncology-UNACON at Hospital de Clínicas Dr. Alberto Lima, where there was a review of breast cancer cases, with an analysis of 194 medical records, out of a total of 254 cases diagnosed from January 2012 to December 2017 and use of

information contained in 171 medical records. The collected data were recorded in a form designed specifically for the research.

As eligibility criteria we had:

- Inclusion criteria: Women diagnosed with breast cancer, attended at HCAL, from January 2012 to December 2017 were included.
- Exclusion criteria: Medical records containing insufficient information and male individuals were excluded.

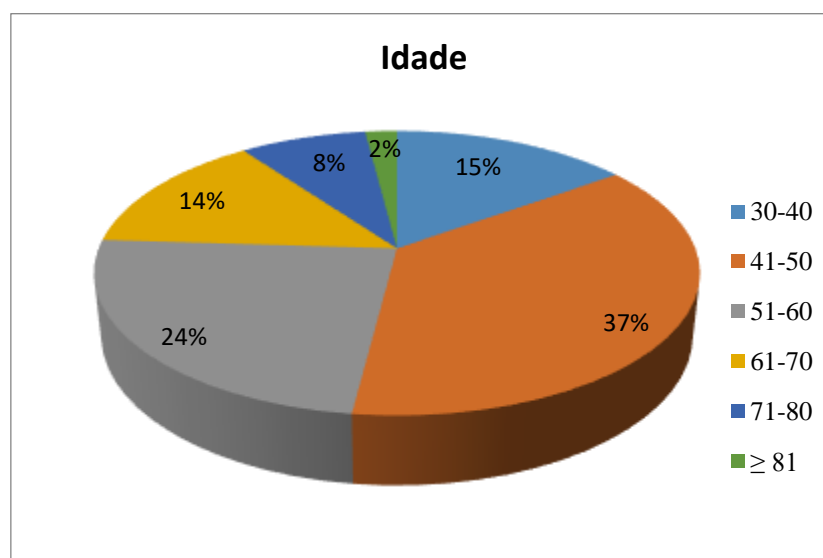
The following variables were studied: age, education level, histological type of the neoplasia, age at first delivery, menarche and menopause, breastfeeding time, alcohol intake, smoking, family history of breast cancer in first-degree relatives.

A comparative statistical analysis was performed on the data obtained, using the BioEstat software, version 5.3, with the application of the Chi-Square test, comparing the number of observations between the classes of each researched variable. The significance level of 5% was considered in all comparative analyzes.

RESULTS

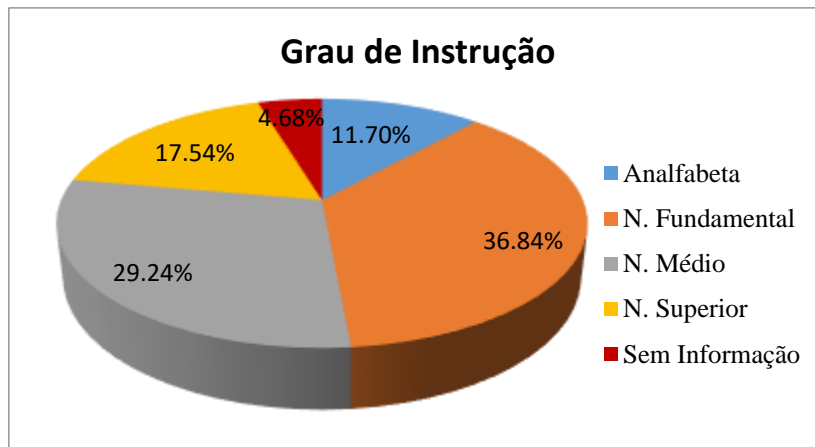
Information was collected on 171 breast cancer cases from January 2012 to December 2017. The prevalent age group in the sample studied was between 41 and 51 years old, with a decrease for older and younger age groups. Women affected by breast cancer had mainly a level of education with only elementary education and gradually decreased the greater the degree of education of the patient.

Figure 1 – Demographic epidemiology of breast cancer cases treated in the Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, showing the occurrence of cases regarding age of diagnosis



Fonte: Autor.

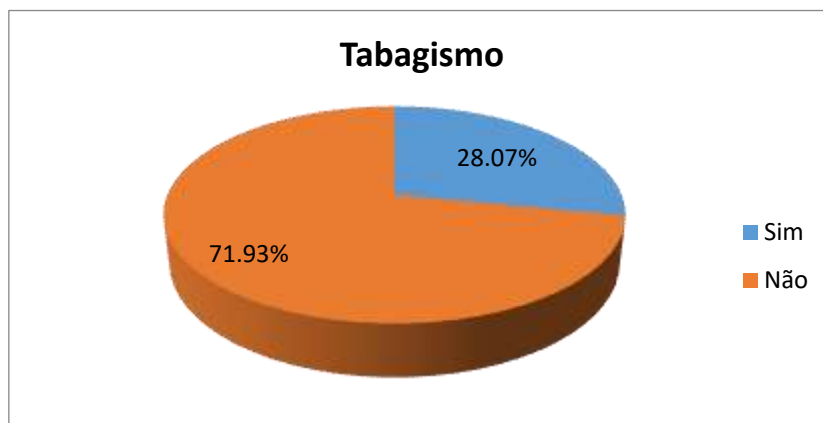
Figure 2 – Demographic epidemiology of breast cancer cases treated in the Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, grau de instrução



Fonte: Autor.

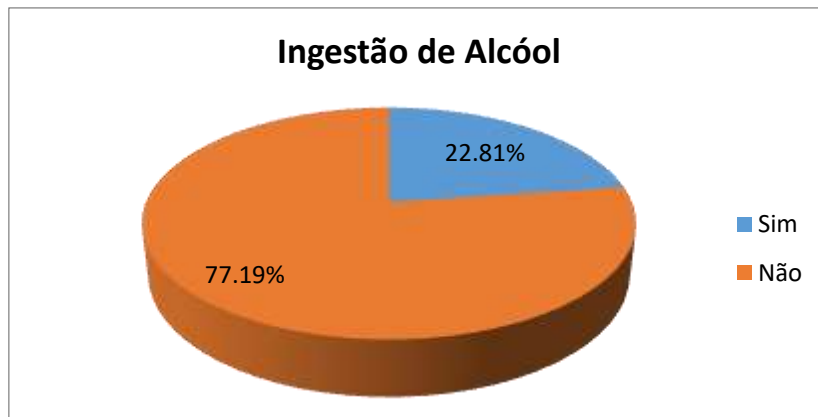
Figure 2 shows the distribution of cases regarding the patient's clinical history or the disease. The vast majority of patients had alcohol consumption habits, cigarettes and had first-degree relatives who had already had cancer. Most women had their first delivery between 13 and 20 years old, menarche between 10 and 13 years old. A bimodal distribution was found regarding the duration of the menstrual cycle. One fashion indicated a prevalence of cases in which women had menarche between 41 and 50 years old and another fashion indicated an equivalent number of cases in women who were still menstruating. The short period of breastfeeding and the absence of breastfeeding were characteristics with an equivalent number of cases. The most prevalent histological type was Invasive Ductal Carcinoma.

Figure 3 – Clinical epidemiology of breast cancer cases treated at Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, tabagismo



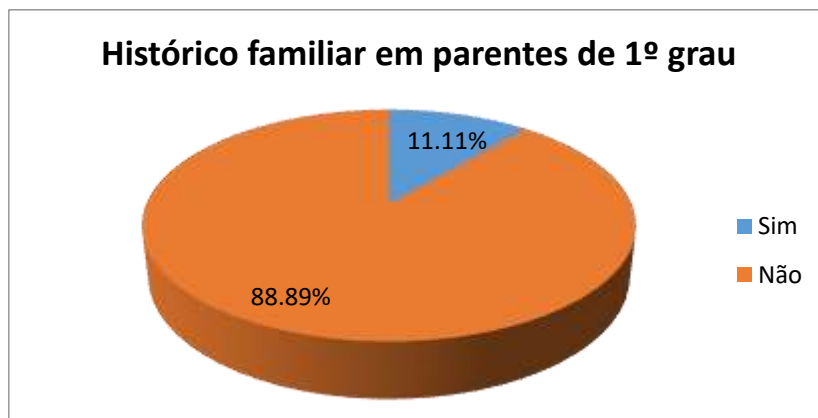
Fonte: Autor.

Figure 4 – Clinical epidemiology of breast cancer cases treated at Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, ingestão de álcool



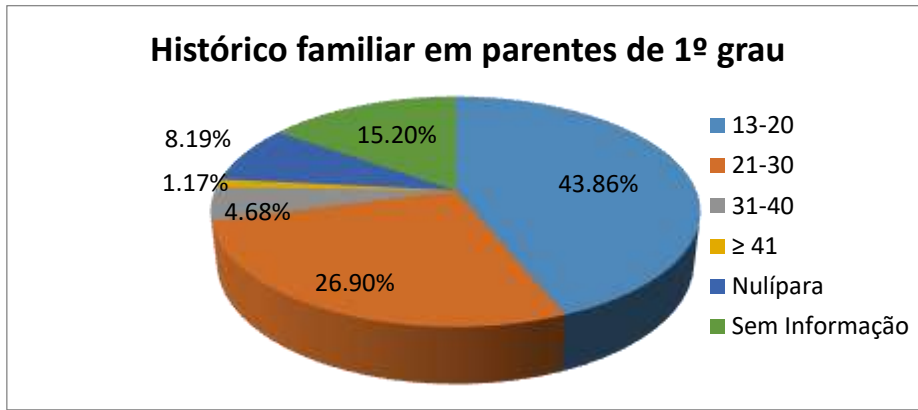
Fonte: Autor.

Figure 5 – Clinical epidemiology of breast cancer cases treated at Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, histórico familiar de câncer de mama em parentes de primeiro grau



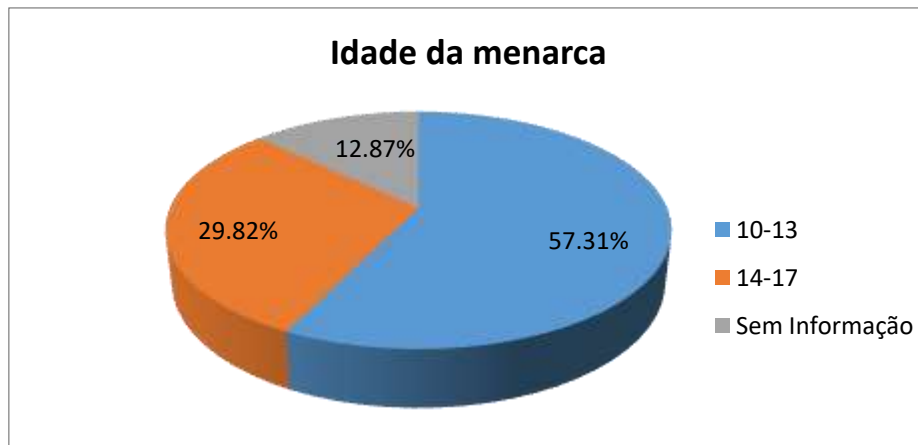
Fonte: Autor.

Figure 6 – Clinical epidemiology of breast cancer cases treated at Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, idade no primeiro parto



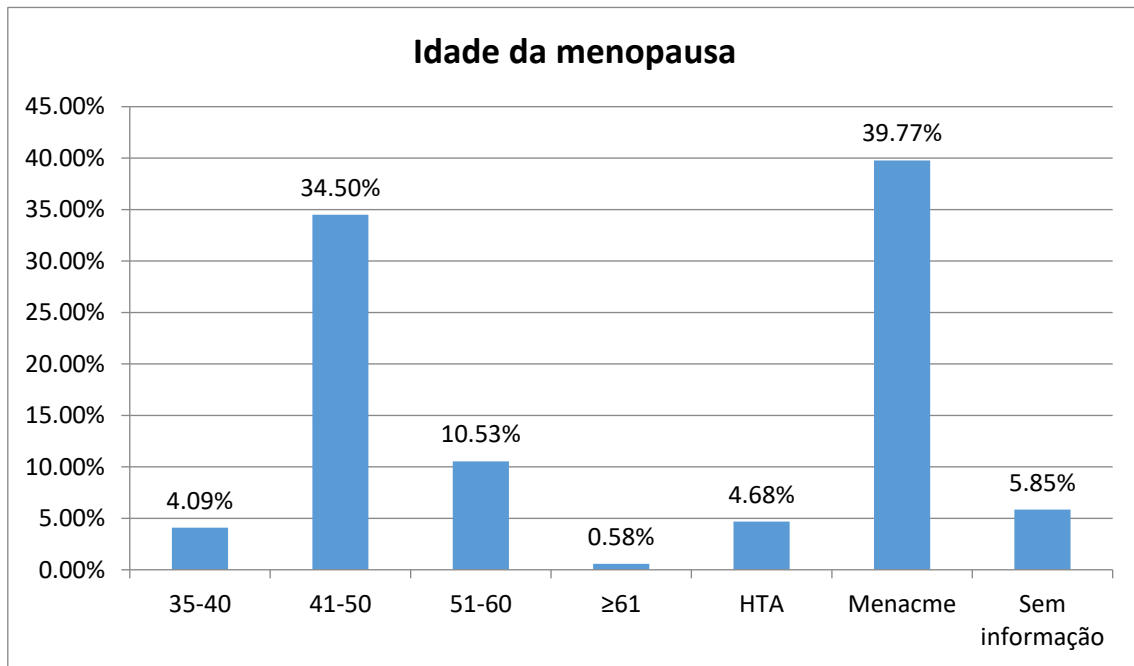
Fonte: Autor.

Figure 7 – Clinical epidemiology of breast cancer cases treated at Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, idade da menarca



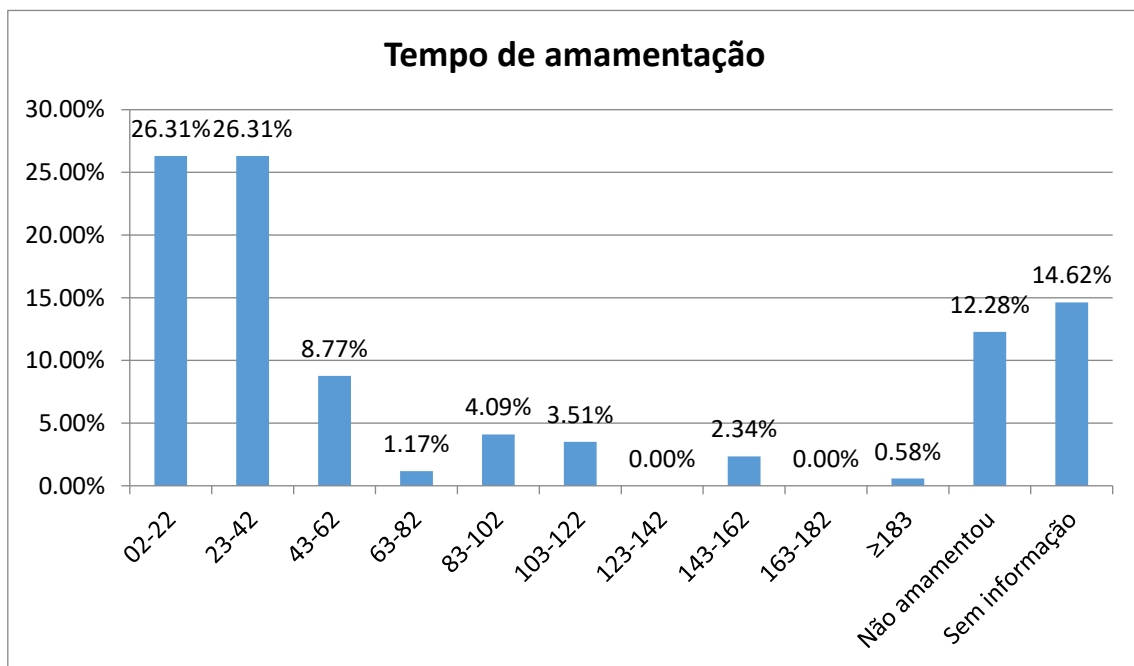
Fonte: Autor.

Figure 8 – Clinical epidemiology of breast cancer cases treated at Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, idade da menopausa



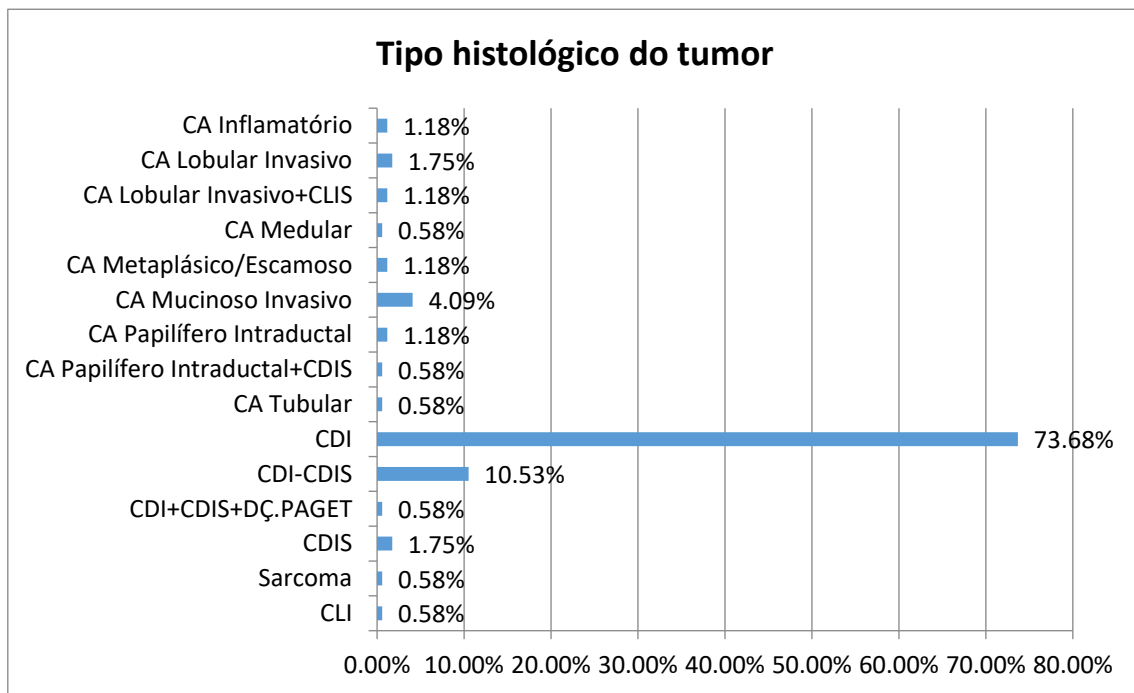
Fonte: Autor.

Figure 9 – Clinical epidemiology of breast cancer cases treated at Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, tempo de amamentação



Fonte: Autor.

Figure 10 – Clinical epidemiology of breast cancer cases treated at Hospital de Clínicas Dr. Alberto Lima, from January 2012 to December 2017, in Macapá-AP, tipo histológico do tumor



Fonte: Autor.

DISCUSSION

Farina et al. (2017) observed that the age group from 41 to 50 years old was the most affected by malignant breast tumors. Result identical to the research in question, where 63 patients were counted. However, a large part of the consulted medical literature shows a predominance of ages between 51 and 60 years. This finding is possibly due to the hormonal imbalance that arises in the climacteric, added to environmental, biological and individual factors.

In this research, most women had a low level of education, where the Fundamental Level (63) stood out. Information that can be ratified in the study by Ribeiro (2018) carried out in the State of Pará, with the level of education in the population studied being far from ideal. Sousa et al. (2016) observed similar results, in their publication made also in the northern State of Tocantins, in this case it was the level of education of the incomplete elementary school that predominated. Barboza et al. (2017) were also able to confirm this information, in their work carried out in the State of Rio Grande do Norte (Northeast region), which presents socio-demographic characteristics similar to those of the states in the North region.

The literature describes that, the lower the level of education, the lower the chances of diagnosis in early stages of the neoplasia, a limiting factor for carrying out preventive measures. Therefore, there is no doubt that the results obtained prove that the low cultural and educational degree, misinformation about prevention, early diagnosis and risk factors for breast cancer, further damaging the diagnosis.

Pinto and Oliveira (2003) stated that the Upper Lateral Quadrant (QSL) of the breast was the most affected site. Conclusion that could be made by the present study, which contains 84 records, the correct topographic documentation of the lesion being extremely important, because the QSL is the one that most leads to the involvement of axillary lymph nodes. Even so, it was not possible to collect this information from 03 medical records.

Invasive Ductal Carcinoma, which is one of the tumor histological types with the worst prognosis, was significantly (126) the most diagnosed, this data is in agreement with the conclusions of the researched

studies, such as Barboza et al. (2017), Farina et al. (2017), Sousa et al. (2016), Pereira (2016), Moura et al. (2015), Gonçalves et al. (2012) and Leme (2005).

Regarding age at the first delivery, there was agreement with the research by Souza et al. (2017) and Moura & Silva (2015), as well as the vast majority of the literature consulted, where ages below 30 years were more prevalent, considering that the Northern Region of Brazil has a high birth rate, including among adolescent mothers. However, the number of nulliparous women has to be well observed.

The age of menarche between 10-13 years (98) predominated, coinciding with the results published by Souza et al. (2017), Farina et al. (2017) and Moura & Silva (2015). Possibly such statement must happen due to the change in eating habits, with increased consumption of animal fat and foods rich in factors related to the genesis of breast cancer. In our region, these data deserve a special discussion, since Amapá habitants eat foods with a high content of animal fat and salt, but vegetables, some of which have protective factors against cancer, are hardly part of the regional menu, in which fish meat is widely consumed.

The most frequent age of menopause was between 41-50 years (59), as stated by Moura & Silva (2015) in their article, where menopause occurred before the age of 55 in 100% of patients. But, Among the cases studied in the current research, 68 women were not menopausal (Menácmé), 8 underwent Total Abdominal Hysterectomy (HTN) surgery and 10 patients had no record of this information.

As for breastfeeding time, in the present study it was found that the result obtained was similar to those by Souza et al. (2017) and Farina et al. (2017), but it was also observed that 21 women did not breastfeed and in 25 medical records there was no such information. Contradicting the protective action of breastfeeding for breast cancer in the rest of the medical literature available for consultation.

With regard to alcohol intake, the present research work was in agreement with the theses of Farina et al. (2017), Barboza et al. (2017), Sousa et al. (2016) and Leme (2005), since 123 women said they did not use alcohol. However, alcohol consumption is considered a risk factor, since it can increase total levels and estrogenic bioavailability, a progressive tissue injury caused by the formation of acetaldehyde that acts on breast carcinogenesis through an inflammatory response mechanism, that is, the greater the consumption, the greater the chance of developing the malignancy.

As for smoking, 132 patients denied being a smoker, according to the work of Ribeiro (2018), Barboza et al. (2017) and Leme (2005), however Souza et al. (2017) showed a significant result where 29% of women reported being smokers. Factor that is considered to be contradictory to the risk of breast cancer in humans.

The family history of breast cancer in first-degree relatives was not observed among the majority (152) of the medical records handled, coinciding with the results of Souza et al. (2017), Sousa et al. (2016), Lauter et al. (2014) and Leme (2005), but diverging from the conclusion of Barboza et al. (2017) which points out 42% (495) of patients with a family history of cancer. According to INCA (2018), this increases the risk of developing breast cancer by two to three times, as this is an important risk factor for breast cancer, due to mutations in the BRCA 1 and BRCA 2 genes, which are passed on from one generation to another.

CONCLUSION

The age group between 41-50 years was the most affected, women with a low level of education (fundamental level) and coming from the capital of Amapá. In these women, the most frequent characteristics were: Age at first birth between 13-20 years, Menarche between 10-13 years, Menopause from 41-50 years with a significant number of patients in Menácmé (outside of Menopause), breastfeeding time between 02-22 and 23-42 months, both intervals with the same number of records; most did not drink alcohol, were not smokers and had no family history of first-degree relatives of breast cancer. The most frequently diagnosed histological type was Invasive Ductal Carcinoma.

REFERENCES

- [1] AMERICAN CANCER SOCIETY. **Cancer Statistics Center**. Atlanta, 2018. Available at. Accessed on: 22 jun. 2018.
- [2] AMERICAN COLLEGE OF RADIOLOGY. Breast Imaging Reporting Data System (BI-RADS®). 5. ed. Reston, VA: American College of Radiology, 2014.
- [3] COLDMAN, A. et al. Pan-Canadian study of mammography screening and mortality from breast cancer. **Journal of the National Cancer Institute**, v. 106, n. 11, 2014.
- [4] BARBOSA, R.S.; FERREIRA, R.K.R.; FAUSTINO, R.S.; SILVEIRA JUNIOR, L.S. Breast Cancer in Rio Grande do Norte, a retrospective study: Epidemiological, Clinical and Therapeutic Profile. NATAL, RN. **Mastology**. 2017; 27 (2): 109-16.
- [5] BODMER, A. et al. Breast cancer in younger women in Switzerland 1996-2009: A longitudinal population-based study. **Breast**, v. 24, n. 2, p. 112-117, 2015.
- [6] BRAZIL. Ministry of Health. Secretariat of Science, Technology and Strategic Inputs. National Commission for the Incorporation of Technologies in SUS (CONITEC). **Trastuzumab for the treatment of metastatic HER 2- positive breast cancer in the first line of treatment**. Recommendation Report. Brasília: Ministry of Health, 2017.
- [7] COLDMAN, A. et al. Pan-Canadian study of mammography screening and mortality from breast cancer. **Journal of the National Cancer Institute**, v. 106, n. 11, 2014.
- [8] COLLINS, L.C. et al. Pathologic features and molecular phenotype by patient age in a large cohort of young women with breast cancer. **Breast Cancer Research and Treatment**, v. 131, p. 1061–1066, 2012.
- [9] COLLINS, L.C. et al. BI-RADS® classification. In: URBAN, L. **Breast diseases: evidence-based pocket guide**. São Paulo: Atheneu, 2013. cap. 1, p. 2.

- [10] COLLINS, L.C. et al. Staging and prognostic factors. In: LUZZATO, F. **Breast diseases: evidence-based pocket guide**. São Paulo: Atheneu, 2013. cap. 27, p. 222.
- [11] CHAGAS, C.R. Population aspects of breast cancer. **Rev. Bras. Mastology**. 1994; 3 (4): 11-6.
- [12] FARINA, A. et al. Epidemiological, clinical, anatomopathological and immunohistochemical profile of patients with breast cancer in Cuiabá (MT). **See. Bras. Mastology**. 2017; 2 (1): 74-9.
- [13] FRASSON, A. and Cols. **Breast diseases: evidence-based pocket guide**. 1st ed. São Paulo: Atheneu, 2013. P. 61-68.
- [14] FRASSON, A. et al. Histopathological classification of invasive carcinomas. In.: BACCHI, C. **Breast diseases: evidence-based pocket guide**. São Paulo: Atheneu, 2013. cap. 26, p. 206-213.
- [15] FREITAS-JUNIOR, R. et al. **Disparities in female breast cancer mortality rates in Brazil between 1980 and 2009**. *Clinics (São Paulo)*, v. 67, p. 731–7, 2012.
- [16] GARICOCHEA, B. et al. Age as a prognostic factor in early stage breast cancer. **Revista Saúde Pública**, vol. 43, n. 2, p. 311-317, 2013.
- [17] GOKSU, S. S. et al. Clinicopathologic features and molecular subtypes of breast cancer in young women (age ≤ 35). **Asian Pacific Journal of Cancer Prevention**, v. 15, p. 6665–6668, 2014.
- [18] GONÇALVES, L.C.C. et al. Female breast cancer: Clinical and pathological aspects of cases registered from 2005 to 2008 in a public oncology service in Sergipe. ARACAJU (SE). **Rev. Bras. Health Mater. Infant**. 2012; 12 (1): 47-54.
- [19] HARBEK, N.; GNANT, M.; THOMSEN, C. St. Gallen 2013: Brief Preliminary Summary of the Consensus Discussion. **Breast Care**, v. 8, p. 102–109, 2013.
- [20] INUMARU, L. E; SILVEIRA, A; NAVES, M. M. Risk and protective factors for breast cancer: a systematic review. **Public Health Notebooks**, v. 27, n. 7, p. 1259-1270, 2011.
- [21] JONES, J. A. et al. Dietary energy density is positively associated with breast density among young women. **Journal of the Academy of Nutrition and Dietetics**, v. 115, n. 3, p. 353-359, 2015.
- [22] KALLEL, M. et al. Breast cancer in young women in southern Tunisia: Anatomical study and clinical prognostic factors: About a series of 83 patients. **Reports of Practical Oncology and Radiotherapy**, v. 20, p. 155–160, 2015.

- [23] LAUTER, D.S. et. al. **Clinical and epidemiological profile of cancer patients**. CONVIBRA, 2014. Available at: Accessed on: 28 mai. 2019.
- [24] LEITE, F.M.C. et al. Women diagnosed with breast cancer undergoing tamoxifen treatment: sociodemographic and clinical profile. **Rev. Bras. Cancerology**. 2011; 57 (1): 15-21.
- [25] LEME, L.H.S. Epidemiological, Clinical and Therapeutic Aspects of Breast Cancer in Men. Dissertation (Master's Degree in Tocogynecology) - Graduate Program of the Faculty of Medical Sciences, State University of Campinas, Campinas. 2005.
- [26] LIMA, G.R.; QUADROS, L.G.A. Breast cancer: epidemiology, risk factors and prevention attempts. **GO Current** 1992; 1 (2): 77-80.
- [27] MAHMOOD, U. et al. Similar survival with breast conservation therapy or mastectomy in the management of young women with early-stage breast cancer. **International Journal of Radiation Oncology Biology Physics**, 2012.
- [28] MARTINS, A. C. et al. Evolution of breast cancer mortality in young women: challenges for an oncology care policy. **Brazilian Journal of Cancerology**, v. 59, n. 30, p. 341-349, 2013.
- [29] MCPHERSON, K.; STEEL, C. M.; Dixon, J.M. ABC of Breast Diseases Breast câncer — epidemiology, risk factors and genetics. **British Medical Journal**, v. 321, p. 624-628, 2000.
- [30] MENKE, C.A.; BIAZÚS, J.V.; CAVALHEIRO J.A.; RABIN, E.G.; CERICATTO, R.; BITTELBRUNN, A.C.; XAVIER, N.L. Malignant breast pathology. In: FREITAS, F.; MENKE, C.H.; RIVOIRE, W.; PASSOS, E.P. **Routines in Gynecology**. 4th ed. Porto Alegre: Artmed, 2015. p. 340-56.
- [31] MENKE, C.A.; BIAZÚS, J.V.; CAVALHEIRO, J.A, RABIN, E.G.; CERICATTO, R., BITTELBRUNN, A.C.; XAVIER, N.L. **Mastology routines**. 4th ed. Porto Alegre: Artmed, 2016. p.119-42.
- [32] METCALFEE, K. et al. Predictors of contralateral breast cancer in BRCA1 and BRCA2 mutation carriers. *British Journal of Cancer*, v. 104, n. 9, p. 1384–1392, 2011.
- [33] MILLES, R.C. et al. Local recurrence after breast-conserving surgery: multivariable analysis of risk factors and the impact of young age. **Annals of Surgical Oncology**, v. 19, p. 1153–1159, 2012.
- [34] MINISTRY OF HEALTH; National Cancer Institute José Alencar Gomes da Silva (INCA). **The situation of breast cancer in Brazil**: synthesis of data from information systems. 1st ed. Rio de Janeiro: INCA, 2019.

- [35] MOURA, L.N.M.; SILVA, B.B. **Clinical and Epidemiological Profile Study of Patients with Breast Cancer seen at a public reference hospital in Terezina-PI**, 2015. Available at: . Accessed on: 28 mai. 2019.
- [36] NAZÁRIO, A.C.P. **Mastology**: current conduct. 1st ed. São Paulo: 2016. p. 78-92.
- [37] PEREIRA, H.F.B.E.S.A. **Epidemiological and Clinical Profile of young women with breast cancer in Amazonas**: 11-year study. Dissertation (Master in Health Sciences) - Postgraduate Program in Health Sciences, Federal University of Amazonas, Manaus. 2016.
- [38] PIMENTEL, V.N.; SILVA, L.M.V.; PAIM, J.S.; COSTA, M.C.N. Evolution of breast cancer mortality. Salvador (BA) 1979-1996. **Rev. Bras. Cancerology**. 2002; 48 (4) 505-9.
- [39] PINOTTI, J.A.; TEIXEIRA, L.C. Breast cancer: importance, epidemiology and risk factors. In: Halbe HW. **Gynecology Treaty**. 4th ed. São Paulo: Roca; 2014. p. 2019.
- [40] PINTO, N.T.; OLIVEIRA, T.S. **Epidemiological aspects of patients with breast cancer treated at Hospital Ofir Loyola, from 1998 to 2000**. (Course Conclusion Paper). Belém (PA): Pará State University - Center for Biological and Health Sciences, 2003.
- [41] RIBEIRO, M.A. **Effects of unpleasant symptoms of chemotherapy-induced peripheral neuropathy in patients with breast cancer**. Dissertation (Master in Nursing) - Postgraduate Program in Nursing, State University of Pará / Federal University of Amazonas, Belém. 2018.
- [42] SCHOEMAKER, M.J. et al. Association of Body Mass Index and Age with Subsequent Breast Cancer Risk in Premenopausal Women. **JAMA Oncology**, 2018. Available in: Accessed on: 25 jun. 2018.
- [43] SOUSA, E.D.P.; FILHO, A.B.S., DIAS, C.P. Breast sarcoma: case report. **Rev. Bras. of Mastology**. 2011; 21 (2): 78-80.
- [44] SOUSA, E.D.P.; FILHO, A.B.S.; DIAS, C.P. **Estimate 2018**: incidence of cancer in Brazil. Rio de Janeiro, 2018. Available at: Accessed on: 23 jun. 2018.