

# PROFILE OF CARE IN YOUNG WOMEN WITH BREAST CANCER IN AMAZONAS: 11 YEARS STUDY

## Perfil de atendimento em mulheres jovens com câncer de mama no Amazonas: estudo de 11 anos

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### ABSTRACT

A cross-sectional, retrospective cohort study was carried out to describe the profile of breast cancer patients aged 40 years or less diagnosed and treated at the CECON/FCECON Foundation from 2003 to 2013. The following were evaluated: age, staging, place of origin and diagnostic accuracy, through search of records in patients' records. Data were computed in a database and analyzed through descriptive statistics. There were 211 patients under 40 years with breast cancer in the study period, representing 9.83%. The most affected age group was between 35 and 40 years. Regarding clinical staging, 57 cases were at stage IIA at diagnosis. About the method of screening, 71 patients performed it through clinical examination or self-examination and, in relation to the provenance, 48 cases were from other states. It is necessary to improve diagnosis in this age group and that the institutional care be directed to the patients of their original states.

**KEYWORDS:** Breast cancer; epidemiology; early diagnosis.

### RESUMO

Um estudo de coorte retrospectivo, de corte transversal, foi realizado para descrever o perfil de pacientes com câncer de mama com 40 anos ou menos diagnosticados e tratados na Fundação CECON/FCECON de 2003 a 2013. Foram avaliados: idade, estadiamento, local de origem e acurácia diagnóstica, através da busca de registros nos prontuários dos pacientes. Os dados foram computados em um banco de dados e analisados por meio de análise estatística descritiva. Havia 211 pacientes com menos de 40 anos com câncer de mama no período do estudo, representando 9,83%. A faixa etária mais afetada foi entre 35 e 40 anos. Em relação ao estadiamento clínico, 57 casos estavam no estágio IIA no momento do diagnóstico. Sobre o método de triagem, 71 pacientes realizaram o exame clínico ou o autoexame, e em relação à procedência, 48 casos foram de outros estados. É necessário melhorar o diagnóstico nessa faixa etária e direcionar o cuidado institucional seja aos pacientes de seus estados originais.

**PALAVRAS-CHAVE:** Câncer de mama; epidemiologia; diagnóstico precoce.

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## INTRODUCTION

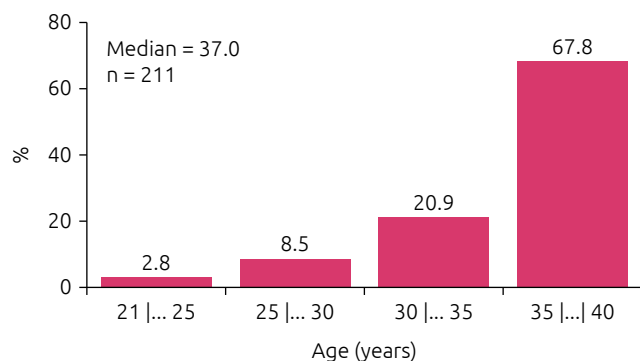
Young women are more vulnerable to late diagnosis due to the lack of mammographic screening actions that they do not do because of the difficulty of interpreting mammography taking into account the high breast density that these women present<sup>1-5</sup>.

These women have an unfavorable prognosis in relation to older women. The reason for this difference is quite complex and related to tumor biology and delayed diagnosis, once they are diagnosed at a more advanced stage, with palpable tumors, greater lymph node involvement and an extensive intraductal component, besides having a greater possibility of not responding to endocrine treatment<sup>3,6-11</sup>.

In this study, we compared the results obtained and presented them in Figure 1. The sensitivity of the clinical examination for cancer diagnosis in young women is very variable, since the malignant nodule may have a misinterpretation that delays its identification and worsens its prognosis. The diagnosis of these patients requires an extremely careful approach. These findings point to the importance of breast examination in the routine visit to the health professional, which is undoubtedly performed prior to the start of mammography screening<sup>12</sup>.

Age, as a prognostic factor, is important in mammary neoplasia, because if the diagnosis is performed early it can be cured by performing a more aggressive treatment, due to recurrence and low survival, which are common to this group<sup>9,13</sup>.

Breast carcinoma is uncommon among young women, accounting for 5 to 7% of cases in some series. Defined by several authors such as those that develop before 30, 35, 40, 45 or even 50 years, it presents with worse prognosis, since its diagnosis is made when the patient is symptomatic and, therefore, has already evolved to a more advanced stage of the disease. As a result, mortality rate was significantly higher in the postmenopausal group<sup>2,3,14</sup> than in the postmenopausal period. The greater vulnerability of young women to advanced diagnosis is justified by the lack of tracking actions and the difficulty in reading and interpreting mammographic results due to high breast density. Another factor that



**Figure 1.** Distribution according to the age of women with breast cancer under 40 years old attended at Oncology Control Center Foundation of Amazonas (FCECON), 2003–2013, Manaus (AM), Brazil.

may contribute is the false perception, by many health professionals, that young women are not at risk of developing cancer, devaluing early signs and symptoms of the disease<sup>3</sup>.

The objective of this study was to describe the prevalence of breast cancer in women under 40 years from 2003 to 2013 at the CECON Foundation and to analyze the sensitivity of diagnostic methods, clinical staging and patients' origin.

## METHOD

Observational epidemiological study, descriptive of a cross-sectional cohort, diagnosis and retrospective cohort of the patients attended at the Oncology Control Center Foundation of Amazonas (FCECON), in Manaus, aged under 40 years, with breast cancer in the period of 2003-2013. Variables assessed: age, histological type, diagnostic method and staging.

The study was appraised and approved by the CECON Foundation's Research Ethics Committee on Human Beings with the CAAE number 39812114.7.0000.0004.

The Term of Free and Informed Consent (TCLE) for accessible women was used and waiver was requested for non-accessible women. Due to these cases, the Term of Commitment of Data Use (TCUD) was presented, in which the researchers committed themselves to data's secrecy and confidentiality.

The inclusion criterion was women diagnosed with primary breast cancer aged 40 years or less treated at the CECON Foundation from January 2003 to December 2013.

Women who presented medical records without the information necessary for the study were excluded.

## RESULTS

Analyzing the variable age, it was observed that the youngest woman was 21 at the time of diagnosis and the oldest 40 years; the median age was 37 years, with a predominance of women in the age group of 35–40 years (67.8%), the age group with the least involvement was between 21 and 25, equivalent to 2.8% of the sample (Figure 1).

Patients treated from 2003 to 2013 were identified as coming from Manaus, Amazonas' capital, from other states and even from other countries. The presence of patients from other states happens because these are geographically close to Manaus. In relation to other countries, it has been observed that, in recent years, refugees from Haiti and patients from Venezuela have come to the Amazon capital.

A total of 211 patients were attended at the CECON Foundation, of whom only 195 had a medical record from their origin. In this period, 53.8% were from Manaus, 24.6% from other states, 21% from the interior of Amazonas and 0.5% were from other countries (Table 1).

Among the 211 women diagnosed with breast cancer, 95 (45%) underwent breast ultrasonography and 108 (51.2%) underwent mammography. Regarding mammography, BIRADS II classification

occurred in 33 cases (30.6%), BIRADS IV in 25.9% and BIRADS V in 25.9% of the cases (Table 2).

Between the 95 women who underwent ultrasound, 46.3% presented BIRADS IV classification and 21.1% presented BIRADS V.

Among the 108 patients who underwent mammography, there was an association with ultrasound in 66.3% of the cases. From all 211 patients evaluated, 71 (33.6%) had not performed any type of imaging; their diagnosis was made by clinical or self-examination, according to Table 3.

Although there was no statistically significant difference, ultrasound showed a sensitivity of 67.4% for breast cancer diagnosis and mammography in only 57.4% (Table 4).

**Table 1.** Distribution according to the origin of women with breast cancer under 40 years attended at Oncology Control Center Foundation of Amazonas (FCECON), 2003–2013, Manaus (AM), Brazil.

Variables	$f_i$	%
Place of origin (n=195)		
Manaus	105	53,8
State of Amazonas	41	21,0
Other states	48	24,6
Other countries	1	0,5

$f_i$ : frequency.

**Table 2.** Distribution of women with breast cancer under 40 years in relation to ultrasound and mammography treated at Oncology Control Center Foundation of Amazonas (FCECON), 2003–2013, Manaus (AM), Brazil.

Variables	$f_i$	%
<b>Ultrasound (n=211)</b>		
Classification		
I	8	8,4
II	10	10,5
III	13	13,7
IV	44	46,3
V	20	21,1
Average±DP	3,6±1,2	
<b>Mammography (n=211)</b>		
Classification		
00	6	5,6
I	5	4,6
II	33	30,6
III	8	7,4
IV	28	25,9
V	28	25,9
Average±DP	3,2 ± 1,4	

$f_i$ : frequency; DP: standard deviation.

## DISCUSSION

Foxcroft et al.<sup>15</sup>, in a retrospective study, assessed 239 patients under 40 years, and the most affected age group was that between 35 and 39 years old (66.5%), as in our sample, in which this group represented 67.8% of the patients.

Bharat et al.<sup>16</sup>, 3,596 patients from the 1998–2006 period treated for breast cancer in St. Louis, USA were evaluated. They were aged under 40 years in 9.6% of the cases and 90.4% were over 40 years. In our case, this group represented 9.83%.

In the present study, 53.8% of the patients were from Manaus, 21.0% were from the interior of Amazonas, 24.6% were from other states in the northern region and 0.5% from other countries. The care of patients from other states at FCECON occurs due to the geography of the region, because due to its continental dimensions, the institution is often closer to patients than the ones in their own state of origin. This creates a significant financial cost for Amazon that is not passed on to other states. In addition, this migration overloads the service and increases the difficulty of improving access from early diagnosis to treatment, distancing the time between these two steps. In this way, FCECON presents a statistics of care and diagnosis of patients from the state of Amazonas and also from the rest of the northern region.

**Table 3.** Distribution according to the ultrasound frequency in relation to mammography of women with breast cancer under 40 years attended at Oncology Control Center Foundation of Amazonas (FCECON), 2003–2013, Manaus (AM), Brazil.

Mammography	Ultrasound				Total
	Yes		No		
	$f_i$	%	$f_i$	%	
Yes	63	66,3	45	38,8	108
No	32	33,7	71	61,2	103
Total	95	45,0	116	55,0	211

$f_i$ : frequency.

**Table 4.** Distribution according to the sensitivity of the ultrasound and mammography examinations of women with breast cancer under 40 years attended at Oncology Control Center Foundation of Amazonas (FCECON), 2003–2013, Manaus (AM), Brazil.

Variables	$f_i$	%	95%IC
<b>Ultrasound (n=95)</b>			
Class 4 and 5	64	67,4	57,0–76,6
Class 1, 2 and 3	31	32,6	23,4–43,0
<b>Mammography (n=108)</b>			
Class 0, 4 and 5	62	57,4	47,5–66,9
Class 1, 2 and 3	46	42,6	33,1–52,5

$f_i$ : frequency; 95%IC%: confidence interval at the level of 95%.

Regarding clinical staging, 27.5% of the cases were staged as IIA, followed by IIIB (21.3%) and stage IV (2.4%), demonstrating that diagnosis was made late. This distribution demonstrates that women are already diagnosed at advanced stages of the disease, making treatment even more challenging.

In the case of Pinheiro et al.<sup>9</sup>, the diagnosis was predominantly in the IIA. The IIIB stage was considered as an advanced carcinoma in 62.8% of the patients, and distant metastasis occurred in 9.7% of the cases.

In a retrospective study with 507 women carried out by Thangjam et al.<sup>5</sup>, 160 were under the age of 40 years (31.56%) and 347 were over 40 years old (68.44%). Stage III was the most common (47%), followed by stage II (34%) and stage I occurred only in 11% of the patients.

In the present study, mammography was effective in the diagnosis of mammary neoplasia with the category of classification BIRADS IV in 25.9% and class V in 25.9%. Mammography was not effective in this diagnosis in 40.8% due to class 0 in 5.6%, class I in 4.6% and class II in 30.6%, demonstrating the low sensitivity of the method.

Ultrasonography can detect lesions that mammography is not capable due to breast density. Ultrasonography identifies lesions 95.7% more than the intraductal microcalcifications according to the data of An et al.<sup>17</sup>, agreeing with the findings of this study, which demonstrated that ultrasound is more effective than mammography in young patients.

In the series by Yankaskas et al.<sup>14</sup>, the comparison between younger and older women was made. Specificity was lower in women between 18 and 39 years and sensitivity was lower (76.5%) in younger women. The detection rate between the ages of 18 and 39 was 1.7% per 1,000 mammograms and 2.3–1,000 / mammograms in the age group of 40–44 years. In women between 45 and 49 years the rate was of 4.3 per 1,000 / mammograms. The poor performance of mammography in these patients is due to the breast density that masks the tumors.

Partridge et al.<sup>2</sup> evaluated the effect of age on delayed diagnosis and staging of breast carcinoma, and identified that mammography diagnosed women under 40 years in only 10.4% of the cases and women above 40 years in 48%. In this series, the diagnosis was made by self-examination in 39.1% of the patients

under 40 years. These data are similar to those found in the present study, where patients identified the lesions in 33.6% without having performed imaging tests, reinforcing the association of delayed diagnosis and advanced stage of the disease.

According to the recommendation of the Brazilian Federation of Associations of Gynecology and Obstetrics (FEBRASGO) and the Brazilian Society of Mastology (SBM), women under 40 should not perform mammography and ultrasonography as a screening method. For high-risk patients, it is recommended that the screening strategy be individualized. The expected benefits should always be weighed against the risks involved, noting that the young breast may be more sensitive to the radiation's carcinogenic effect. It is considered that not only the sensitivity of mammography is decreased by the dense breast, but the dose of radiation dispensed by the mammograph in these cases is larger<sup>18</sup>.

There are reasons for the adverse prognosis of breast carcinoma in young women. Without doubt, the biological tumor's characteristics and the delay in diagnosis are the main causes for this thought. In a retrospective study between 2007 and 2014, Telfah et al.<sup>10</sup> identified 160 women with breast cancer below and above 40 years, in which the median age was 35 years. This study demonstrated that the delay in diagnosing young women is around 8.35 weeks and in older women around 7.44 weeks. It is believed that this delay occurs due to the breast density and the low probability of cancer in young women.

In a retrospective study with 628 women under 40 years of age in the period of 1996 to 2008 in Massachusetts, with the median age of 37 years, the disease was detected by auto examination in 71% of the cases, by mammography in 24% and resonance in 1%. The mean size of the tumors was between 1 and 2 cm and the carcinoma in situ diagnosed only in 19%<sup>19</sup>.

## CONCLUSION

FCECON service not only demonstrates the reality of the Amazon, but also reflects the reality of the North region, once 24.6% of the patients come from other states. Having this, it should be considered that institutional care should be directed to patients in their State of origin, and it is necessary to improve diagnosis in this age group.

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