Ann Ig 2022 Jul-Aug; 34(4): 319-325. doi: 10.7416/ai.2021.2482. Epub 2021 Oct 11

Breast cancer: the real road of the Brazilian northeast

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Key words: Cancer, Breast, Epidemiology, Management
Parole chiave: Cancro, Mammella, Epidemiologia, Gestione

Abstract

Objective. *To characterize the clinical and sociodemographic aspects of breast cancer patients undergoing cancer treatment in the State of Maranhão, in a public reference hospital.*
Methods. *Descriptive, correlational and analytical cross-sectional study, conducted between January 2019 and February 2020, at the Tarquínio Lopes Filho State Cancer Hospital. The study population consisted of all women, in first consultation, with breast cancer undergoing chemotherapy, in agreement with the study and with no brain metastasis evidenced. Statistical analysis was performed using SPSS v. 19 software, considering a significance level of 5%.*
Results. *Eighty adult women were part of the study, whose average age was 52.54. Most of the women were born in São Luís, white, housewives, sedentary, married, former smokers, and Catholic. They had technical/specialized training. In the clinical results, the histological type of infiltrative ductal carcinoma predominated, as well as stage III, mastectomy and the doxorubicin-cyclophosphamide-taxol chemotherapy regimen.*
Conclusion. *The knowledge of each regional profile assists health professionals regarding the characterization of a target population and the design of targeted preventive and self-care strategies by managers.*

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Annali di Igiene : Medicina Preventiva e di Comunità (Ann Ig)

ISSN 1120-9135 https://www.annali-igiene.it

Introduction

Breast cancer (BC) is a severe public health problem, representing the most incident and prevalent malignancy among females worldwide, presenting itself behind skin cancer (1). In 2019, in Brazil, 59,700 new cases of this type of cancer were expected, representing 29.5% of the total number of cancer cases among Brazilians (2).

Except for non-melanoma skin cancer, BC is the most common type of cancer among Brazilian females, with an estimated risk of 81.06 per 100,000 in the southeastern region; 71.16 per 100,000 in the southern region; 45.24 per 100,000 in the central west region; 44.29 per 100,000 in the northeast region; and 21.34 per 100,000 in the northern region (3). In 2019, the total deaths due to BC were estimated at 18,068 in Brazil, representing 16.4% of all cancer deaths (4).

Mortality rates for BC tend to rise in developing countries, either due to late diagnosis or barriers to initiation of therapy (5). To mitigate these indexes, some studies point to the need to identify the socioeconomic and demographic risk factors in females affected by breast tumors, since the peculiarities of religious and cultural beliefs can influence - to the best or to the worst - the therapeutic adherence (6).

The current context implies a global demographic rearrangement, coupled with the population ageing process, which together infer changes to the epidemiological profile and to the distribution of the main types of cancer. These consequences are observed as an increase of chronic non-transmissible degenerative diseases, to the detriment of infectious and contagious diseases. In the national scenario, this transition has not yet been well established, sometimes due to the unstable health care of the population and levels of social inequality (7). Thus, the Brazilian cancer panorama shows a multifactorial scenario of change in the distribution and diagnosis of cancer patients, influenced by several aspects, linked to risk factors and the socioeconomic situation. In this context, overall epidemiological studies tend to help public managers to better formulate health policies appropriate to the reality of each region (8).

Knowledge about risk factors and epidemiology is necessary, then, for the design of preventive actions and early diagnosis, with the opportunity to increase cure and survival rates. In such scope, the objective of this study was to characterize the clinical and sociodemographic aspects of patients with BC undergoing cancer treatment in a public hospital in the state of Maranhão.

Methods

This is a descriptive, correlational and analytical, cross-sectional study, carried out between the months of January 2019 and February 2020, at the Tarquínio Lopes Filho State Cancer Hospital, a reference in Oncology, located in São Luís, Maranhão. The study population consisted of all women, in first consultation, with BC undergoing chemotherapy treatment, in agreement with the study and with no brain metastasis.

The patients were selected individually, maintaining the privacy of each participant, in three weekly visits to the chemotherapy application room. The patients' data were collected through the respective medical records, and then registered in the instrument of socio-demographic, clinical and therapeutic characteristics. Afterwards, an interview was carried out to complement the missing data.

The data were inserted into a database in the *Microsoft Excel program.* Statistical analysis was performed using SPSS v. 19 software, considering a significance level of 0.05.

The study was approved by the Research

Ethics Committee of CEUMA University, under CAAE: 27793614.6.0000.5084, legal opinion 606.999

Results

Eighty adult women participated, whose average age was 52.54 ± 9.54 years (32 - 75 years). The sociodemographic and clinical aspects of the patients can be visualized in Table 1. Most of the women were from São Luís (65.00%; n = 52), living in their own home (78.75%; n = 63). As for social aspects, 53.75% (n = 43) called themselves white, 56.25% (n = 45) were married and 58.75% (n = 47) Catholic. Most of them completed high school education (60.00%; n = 48) and had technical/specialist training (66.25%; n = 53). In clinical results, the infiltrating ductal carcinoma histological type predominated (98.75%; n = 79), as well as stage III (55.00%; n = 44), mastectomy (46.25%; n = 37) and the doxorubicin-cyclophosphamide-

Table 1 - Sociodemographic and clinical conditions of patients treated at the chemotherapy unit of Tarquínio Lopes Filho Hospital, from January 2019 to February 2020.

Variable	Average ± Standard deviation	Minimum	Maximum
Age (years)	52,54 ± 9,54	32	75
Variable		N	%
Racial group	White	43	53.75
	Black	21	2625
	Brown	16	20.00
Marital status	Married	45	56.25
	Divorced	2	2.50
	Single	28	35.00
	Widow	5	6.25
Place of birth	Other municipality	28	35.00
	São Luís	52	65.00
Dwelling	Rented	8	10.00
	Family	9	11.25
	Own	63	78.75
Religion	Catholic	47	58.75
	Spiritist	4	5.00
	Protestants	23	28.75
	African origin	6	7.50
Occupation	Retiree	1	1.25
	Unemployed	2	2.50
	Housewife	23	28.75
	Technical Training/Specialization	53	66.25
	Higher	1	1.25
Schooling	Basic	14	17.50
	High school	48	60.00
	Higher	18	22.50
Anatomical pathology	IDC	79	98.75
	Adenocarcinoma	1	1.25
Stage	II	11	13.75
	III	44	55.00
	IV	25	31.25

Surgery	Mastectomy	37	46.25
	Did not perform	25	31.25
	Quadrantectomy	18	22.50
Comorbidities	Diabetes	4	5.00
	Hypertension	26	32.50
	Hypertension/Diabetes mellitus (DM)	2	2.50
	Denies	48	60.00
Beverage consumption	No	79	98.75
	Yes	1	1.25
Tobacco	Ex-smoker	24	30.00
	Smoker	1	1.25
	Never smoked	55	68.75
	Irregular	20	25.00
Physical activity			
	Regular	20	25.00
	Sedentary	40	50.00
Chemotherapy scheme	ACT	45	56.25
	Capecitabine	10	12.50
	CMF	5	6.25
	Docetaxel	3	3.75
	FAC	4	5.00
	FEC	7	8.75
	Herceptin	2	2,50
	Paclitaxel	1	1,25
	Perjeta + Herceptin	3	3,75
Total		80	100.00

taxol chemotherapy treatment scheme (ACT) (56.25%; n = 45). Regarding comorbidities, most of them denied having another chronic non-communicable disease (60.00%; n = 48), while 32.50% (n = 26) reported a diagnosis of systemic arterial hypertension. For the acquired lifestyle habits, 98.75% (n = 79) did not consume alcoholic beverages, 68.75% (n = 55) never smoked and 5000% (N = 40) were sedentary.

Discussion

BC is the most frequent cancer in women and its global burden, verified by incidence or mortality, is large and exponential in several countries, increasing with age (9). Approximately 95% of new cases occur in women over 40 years of age, reaching their peak from 65 to 70 years old (10). Such findings are directly related with the results obtained in this study, where it was observed that the age group of patients with BC had an average age of 52.54 years, similar with the reports by Silva (11), Lôbo (12) and Elias (13), whose ptients had an average age of 52 years.

Regarding race/ethnicity, there was a predominance of white skin color, matching data of the Brazilian Breast Cancer Studies Group (14), Silva (11) and Dos Santos Barboza (15). The evaluation of the race/ethnicity of the patients did not have an objective criterion, being carried out by the perception of the interviewee.

Schooling reflects the socioeconomic level, therefore, the taint linked to cancer

contributes for these women with less education to have limitations in accessing health service, promoting delay in diagnosis, thus inferring an inadequate treatment for the cure (11, 16). These facts are added to the data found, which showed that most of the women were native of São Luís, from urban area, lived in their own home and had achieved a high school level, with greater access to the public health services.

Benevides (17), Lôbo (12), Wöckel (18) reported an increase in the prevalence of BC in married women, which is consistent with the present study, where 56.25% self-reported being married. Having a partner leads to a social support network with greater emotional backing, a decrease in stress generated by the pathological context and a lower incidence of depression (19).

One hundred percent of the patients studied stated that they maintained a religious creed and believed in God. Coping with cancer and its setbacks leads patients to seek comfort in spiritual beliefs, which are associated with positive psychological outcomes. Religious/spiritual comfort is usually associated with lower levels of distress, anger, anxiety and social isolation in cancer patients (20).

Important improvements in the approach to BC have occurred in recent decades, mainly in treatment. This varies by disease staging, biological characteristics, clinical conditions of the patient (6, 11). The treatment procedures for BC can be divided into: local (surgery and radiotherapy) and systemic (chemotherapy, hormone therapy and biological therapy), always individually. In this study, the predominance of mastectomy and the ACT chemotherapy scheme was observed.

The conceptualization of locally advanced BC is restricted to stage III, and its incidence in developing countries can be up to 50% (21). When paying attention to the clinical profile in this study, there was a high percentage of women in advanced stage, which was also demonstrated by Suleiman et al (22). Such findings may be correlated with the low local and regional effectiveness of actions to control and combat cancer over the decades.

As for lifestyle, 24% of women reported that they had already been smokers. Tobacco is a factor studied with different results, however, it is currently recognized by the International Agency for Research on Cancer as a carcinogenic agent with tender evidence of increased risk of BC in humans (23).

There is considerable and plausible evidence from epidemiological studies denoting that regular physical activity reduces the risk of BC in women. Possible biological mechanisms include the influences of physical activity on body composition, insulin resistance and circulating levels of sex steroid hormones. Hyperinsulinemia with insulin resistance has been reported as an independent risk factor for BC, as well as elevated serum insulin levels may contribute to increased tumor growth (21). Such facts are in agreement with the observation that up to 50% of the interviewees were sedentary, contributing to the emergence of BC.

Conclusions

The research strengthens that studies regarding the epidemiology of BC in different Brazilian locations are of great value, as they provide knowledge on the multifactorial scenario of transition/renewal in the distribution and realization of diagnoses of cancer patients, which are associated in part with the risk factors involved and the inherent socioeconomic situation of each region.

Thus, knowledge of the regional profile assists health professionals (HPs) regarding the characterization of a target population and the design of targeted preventive and self-care strategies by managers.

The consent of the HPs in the implementation of preventive measures of the BC must be one of the goals of health services, since it provides subsidies for the optimization of the mapping and early detection of this disease.

Conflict of interest statement: There are no conflicts of interest associated with this publication.

Riassunto

Cancro al seno: l'effettivo percorso del nordest brasiliano

Obiettivo. Caratterizzare gli aspetti clinici e sociodemografici delle pazienti affette da cancro al seno sottoposte a trattamento in un ospedale pubblico di riferimento nello Stato del Maranhão, Brasile.

Metodi. Esecuzione di uno studio descrittivo, correlazionale ed analitico-trasversale, condotto tra il Gennaio 2019 ed il Febbraio 2020 presso il Tarquínio Lopes Filho State Cancer Hospital. La popolazione in studio consisteva di tutte le donne, alla prima visita, con tumore al seno, senza evidenza di metastasi cerebrali, che venivano sottoposte a chemioterapia secondo i protocolli dello studio: per l'analisi statistica è stato utilizzato il software SPPS v. 19, con un livello di significatività stabilito allo 0,05.

Risultati. Hanno partecipato allo studio 80 donne adulte d'età media di 52,54 anni. La maggioranza di esse era nata a São Luís, di professione casalinghe, sposate, sedentarie, ex fumatrici e cattoliche, con una formazione tecnico/specialistica. Clinicamente predominava in esse il carcinoma duttale istologicamente di tipo infiltrativo, di stadio III, trattato con mastectomia e regime chemioterapico con doxorubicin-cyclophosphamide-taxol.

Conclusioni. La conoscenza di ciascun profilo regionale di queste pazienti può aiutare i professionisti sanitari circa la caratterizzazione della popolazione bersaglio ed i manager nel predisporre strategie terapeutiche e preventive, anche di autocura.

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