Breast cancer and public healthcare: survey and proposals from Brazilian Society of Mastology (SBM)

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ABSTRACT

Introduction: High rates of breast cancer mortality have been reported for patients from public healthcare, in Brazil. This study aimed to obtain a panorama of breast cancer in public healthcare, based on a questionnaire sent to breast specialists. **Methods:** Active members of the Brazilian Society of Mastology (SBM) were invited to participate anonymously, from Aug-Oct 2023. Possible answers ranged from "This is not a problem" to "This is a very serious, very common problem". The primary endpoint of the study was the relative frequency of the answers. **Results:** Overall, 767 (44% of all SBM affiliated members) completed the questionnaire. Access to modern drugs was considered the most concerning problem, with 81.36% of respondents classifying this as "serious, frequently" or "very serious, very frequently", followed by access to diagnostic methods (64.53%), access to breast reconstruction (60.24%), delay in starting treatment (60.11%) and access to screening (51.76%). **Conclusions:** This is the first study to evaluate the perceptions of breast specialists on breast cancer care within SUS. The SBM has issued considerations and proposals aimed at reestablishing a minimally adequate standard of breast cancer diagnosis and treatment in public healthcare in Brazil.

KEYWORDS: public health surveillance; breast neoplasms; healthcare disparities; health inequities; socioeconomic factors.

INTRODUCTION

Approximately 72% of the Brazilian population relies exclusively on the public healthcare system (*Sistema Único de Saúde* – SUS) for medical care. The remaining population relies on a variety of healthcare insurance plans offered by private companies[1].

In oncology, there is currently an unprecedented crisis of inequality in the quantity and quality of care provided within the public healthcare sector compared to the private sector. Among women with breast cancer who depend on the public healthcare sector, disease-related mortality rates are particularly high[2,3]. The issues that contribute to this inequality are mostly related to screening and treatment[4,5].

The objective of the present study was to obtain a comprehensive overview of breast cancer care in public healthcare in Brazil through a questionnaire sent to breast specialists across the country.

METHODS

Study population

This online survey was conducted between August and October 2023. All 1,759 breast specialists affiliated with the Brazilian Society of Mastology (*Sociedade Brasileira de Mastologia* – SBM) were invited to participate anonymously in the study. Invitations to visit the web page hosting the questionnaire were sent via e-mails and messages, restricted to affiliates. Access to the questionnaire was not attached to any identification, e-mail, or personal contact. Non-respondents either did not visit the webpage, did not answer, or did not complete the questionnaire. An estimation of non-respondents was made, comparing data from the total number of SBM affiliates.

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Intervention

The online questionnaire consisted of eight objective questions:

- In which state do you live?
- How big is the population of the city/town in which you live or work?
- How is the situation regarding breast cancer screening within public healthcare where you live or work?
- How is the situation regarding delays in initiating breast cancer treatment in public healthcare where you live or work?
- How is the situation regarding breast reconstruction in the public healthcare where you live or work?
- How is the situation regarding breast cancer diagnostic methods (imaging, pathology, and genetic testing) in public healthcare where you live or work?
- How is the situation regarding treatment modalities such as access to targeted drug therapy, cyclin-dependent inhibitors, and immunotherapy in public healthcare where you live or work?

For each question, the possible answers were:

- I don't know
- This is not a problem
- This is a minor, infrequently occurring problem
- This is a moderate, occasionally occurring problem
- This is a serious, frequently occurring problem
- This is a very serious, very frequently occurring problem

Endpoints

The primary outcome of the study was the relative frequency of the answers to each question. The secondary outcome was the relative frequency of *"serious, frequently"* and *"very serious, very frequently"*, according to region and state.

Statistical analysis

This is a descriptive study without comparative analyses. Qualitative variables are expressed as relative frequencies. Tables, figures and maps were built with Microsoft® Excel.

RESULTS

A total of 767 breast specialists answered the questionnaire, representing 44% of all the physicians affiliated with SBM (Table 1). All respondents completed the questionnaire. The only state without representation was Acre.

Access to modern drugs was the most concerning problem, with 81.36% of respondents classifying it as a *"serious, frequently"* or *"very serious, very frequently"* problem, followed by access to diagnostic methods (64.53%), access to breast reconstruction (60.24%), delay in starting treatment (60.11%), and access to screening (51.76%) (Table 2). The proportion, by state, of answers *"serious"* and *"very serious"*, is represented in Figures 1-3.

DISCUSSION

This is the first study to evaluate how breast specialists perceive the major problems involved in breast cancer control within the public healthcare system. The survey addressed five aspects: access to screening, delays in initiating treatment, access to breast reconstruction, access to diagnostic methods, and access to modern treatment modalities such as targeted drug therapy, cyclin-dependent kinase inhibitors, and immunotherapy. The aspect that was considered most concerning was the lack of access to modern drugs.

The issues that contribute to this inequality are mostly related to screening and treatment. Screening in Brazil is opportunistic, and highly dependent on adherence, which is historically

Table 1. Characteristics of the breast specialists from Sociedade Brasileira de Mastologia: respondents and non-respondents.

| State	Respondents n (%)	Non-respondents n (%)	Total
Acre	0 (0)	2 (100)	2
Alagoas	8 (42)	11 (58)	19
Amazonas	8 (50)	8 (50)	16
Amapá	2 (40)	3 (60)	5
Bahia	43 (39)	67 (61)	110
Ceará	28 (45)	34 (55)	62
Distrito Federal	23 (36)	41 (64)	64
Espírito Santo	11 (50)	11 (50)	22
Goiás	21 (36)	38 (64)	59
Maranhão	7 (26)	20 (74)	27
Minas Gerais	96 (48)	102 (52)	198
Mato Grosso do Sul	8 (57)	6 (43)	14
Mato Grosso	7 (54)	6 (46)	13
Pará	9 (31)	20 (69)	29
Paraíba	13 (33)	26 (67)	39
Pernambuco	28 (49)	29 (51)	57
Piauí	11 (61)	7 (39)	18
Paraná	29 (39)	45 (61)	74
Rio de Janeiro	46 (37)	80 (63)	126
Rio Grande do Norte	16 (43)	21 (57)	37
Rondônia	1 (14)	6 (86)	7
Roraima	1 (50)	1 (50)	2
Rio Grande do Sul	41 (35)	76 (65)	117
Santa Catarina	29 (35)	54 (65)	83
Sergipe	4 (20)	16 (80)	20
São Paulo	273 (52)	257 (48)	530
Tocantins	4 (44)	5 (56)	9
Total	767 (44)	992 (56)	1759

Table 2. Main problems in public health according to the breast specialists who completed the questionnaire

| Answer to Question	Access to screening n (%)	Delay in initiating treatment n (%)	Access to breast reconstruction n (%)	Access to diagnostic methods n (%)	Access to modern drugs n (%)
I don't know	24 (3.13)	18 (2.35)	28 (3.65)	12 (1.56)	44 (5.74)
This is not a problem	15 (1.96)	10 (1.30)	42 (5.48)	11 (1.43)	5 (0.65)
This is a minor, rarely occurring problem	67 (8.74)	74 (9.65)	79 (10.30)	61 (7.95)	25 (3.26)
This is a moderate, occasionally occurring problem	264 (34.42)	204 (26.60)	156 (20.34)	188 (24.51)	69 (9.00)
This is a serious, frequently occurring problem	298 (38.85)	287 (37.42)	208 (27.12)	274 (35.72)	177 (23.08)
This is a very serious, very frequently occurring problem	99 (12.91)	174 (22.69)	254 (33.12)	221 (28.81)	447 (58.28)

A)
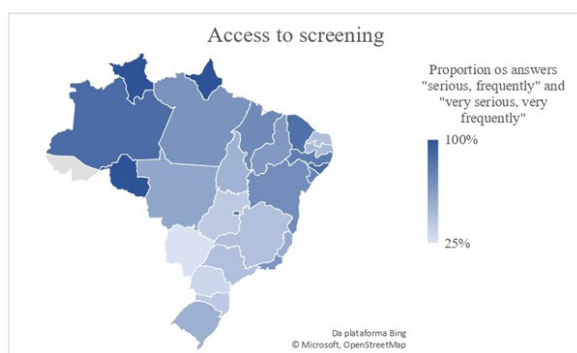
B)
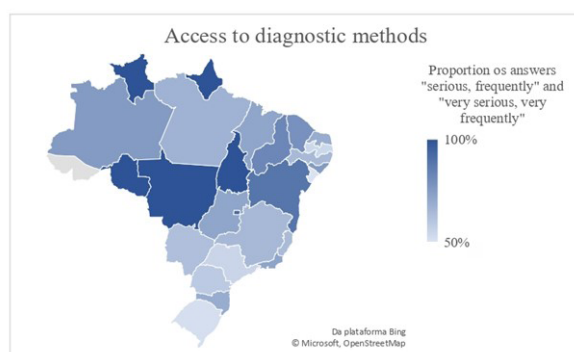
Figure 1. Perceptions as "*serious, frequently*" and "*very serious, very frequently*", regarding screening (A) and diagnostic methods (B), by state, according to breast specialists.

low[6]. Mammography coverage is estimated to reach only 30% of women[7]. Women in public healthcare are less likely to be diagnosed at stage 1[4]. After undergoing mammography, women then experience difficulty in accessing diagnostic tests. Comparing the number of biopsies and mammograms performed within the public healthcare system suggests that only 16.8% of biopsies are carried out within SUS[5,8]. The difficulty in scheduling a biopsy within SUS forces many women to undergo the procedure in private healthcare services.

There is an inverse association between the time interval until initiating treatment and a better breast cancer prognosis.
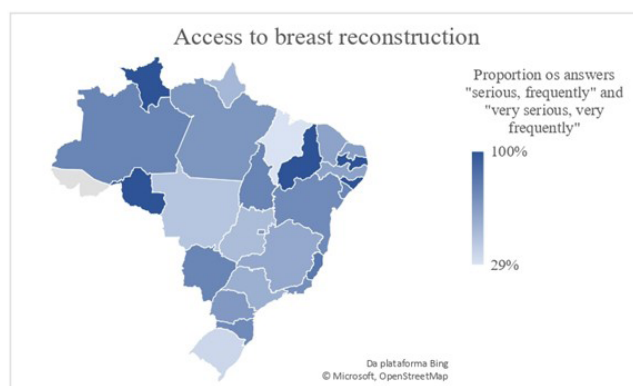
Figure 2. Perceptions as "*serious, frequently*" and "*very serious, very frequently*", to breast reconstruction, by state, according to breast specialists.

Ideally, time for surgery should not exceed eight weeks[9]. In relation to systemic treatment, a systematic review with meta-analysis showed that for every four weeks of delay, there is a reduction in overall survival and disease-free survival[10]. In Brazil, despite legislation that limits the initiation of treatment to 60 days, recent data show that the median waiting time is 59 days, with 49% of women waiting longer than that for treatment to begin[5].

Few data are available on access to breast reconstruction in Brazil. Although national legislation approved in 1999 guarantees the right to breast reconstruction, the number of surgeries performed is low. Studies estimate that only 20–29% of women who have undergone mastectomy within the public healthcare system are able to access breast reconstruction[11,12]. The causes are manifold and may include a lack of public service inspection, non-existent infrastructure, shortage of materials, and lack of trained surgeons. A study found that 20% of breast specialists had received no training in breast reconstruction during medical residency[13].

Currently, there are numerous unmet needs in breast cancer treatment within the SUS. Molecular testing to forecast the benefit of chemotherapy is unavailable, as is genetic testing.
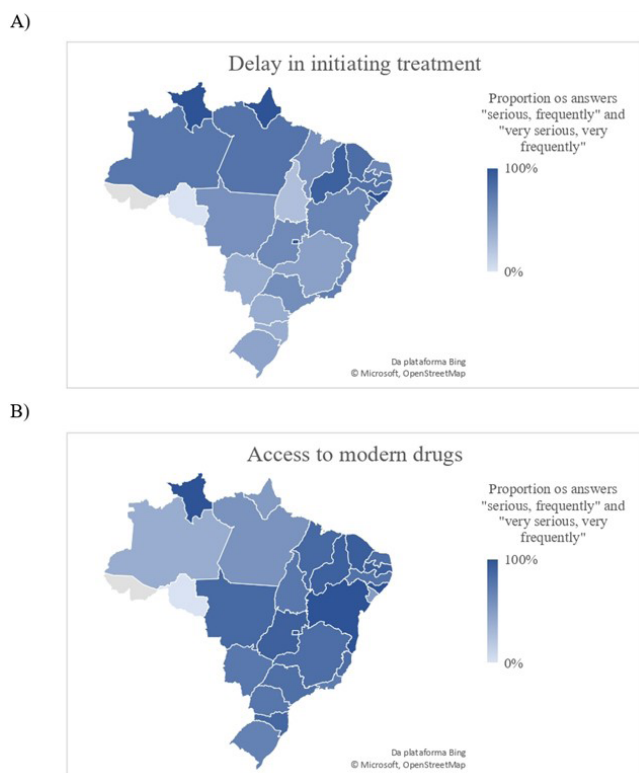
A)

B)

Figure 3. Perceptions as "*serious, frequently*" and "*very serious, very frequently*", to delay in initiating treatment (A) and access to modern drugs (B), by state, according to breast specialists.

The Ministry of Health's most recent updated Guidelines on the Diagnosis and Treatment of Breast Cancer does not include ovarian suppression, pertuzumab for cases of early breast cancer in neoadjuvant setting, cyclin-dependent kinase inhibitors, PARP inhibitors for early or metastatic breast cancer, or immunotherapy[14]. Some public hospitals offer treatment that is even inferior to those minimum recommended guidelines[15].

This is the first study to evaluate the perceptions of breast specialists, distributed throughout most of the country, on the problems associated with breast cancer treatment within the Brazilian public healthcare system. A limitation of the study is that the survey consisted of interviews that were dependent on individual perceptions rather than on primary data obtained from patients. Nevertheless, the present study should serve as an alert to this unprecedented crisis in the public healthcare sector.

SBM has issued the following considerations and proposals aimed at reestablishing a minimally adequate standard of breast cancer diagnosis and treatment within SUS:

1. *Compliance with legislation 14,335 of 2022 that establishes a lower limit of 40 years as the age at which to initiate breast cancer screening in Brazil, with mammograms to be performed annually thereafter.* We recommend a review of the Ministry of Health's recommendations on initiating screening at 50 years of age, with mammograms to be performed once every two years. The incidence of cancer in individuals under 50 years of age is increasing worldwide[16]. In Brazil, in particular, the proportion of cases in young women is high[17,18]. Epidemiological studies have shown that the onset of cancer risk occurs ten years earlier in black women compared to white women[19], who were underrepresented in screening trials. These are, in fact, the reasons why the United States Preventive Services Task Force changed its recommendation, reducing the age at which to start breast cancer screening from 50 to 40 years[20].

2. *Compliance with legislation 12,732 of 2012, which determines a maximum delay of 60 days until initiating treatment within SUS.* Delays in initiating treatment affect prognosis and entail more aggressive treatment, also resulting in financial toxicity[9].

3. *Compliance with legislation 9,797 of 1999, which requires corrective breast reconstruction surgery to be offered within SUS in cases of mutilation resulting from cancer treatment.* Likewise, it is paramount to ensure that cancer centers have a breast reconstruction team.

4. *Establishing equivalence between the procedures approved by ANVISA in the National Commission for the Incorporation of Technology within the National Health Service (Comissão Nacional de Incorporação de Tecnologias no Sistema Único de Saúde – CONITEC) and the National Agency of Supplementary Healthcare (Agência Nacional de Saúde Suplementar – ANS) with respect to diagnostic methods and treatment modalities.* Strategies must be drawn up to enable the incorporation, acquisition and adequate remuneration of diagnostic methods, including germline genetic testing, positron emission tomography (PET), breast magnetic resonance imaging (MRI), and vacuum-assisted biopsy. Likewise, modern treatment modalities should be incorporated, particularly trastuzumab emtansine (approved by CONITEC but still not available in SUS), cyclin-dependent kinase inhibitors (approved by CONITEC but still not available in SUS), pertuzumab (approved but available exclusively for cases of metastatic disease), pembrolizumab, trastuzumab deruxtecan, PARP inhibitors, goserelin, and sacituzumab govitecan.

CONCLUSION

This study shows how breast specialists perceive major problems involved in breast cancer control within public healthcare system in Brazil. Lack of access to modern treatment modalities was considered the most concerning aspect, followed by access to diagnostic methods, access to breast reconstruction, delay in starting treatment and access to screeening. Breast specialists are concerned that their SUS patients could be receiving insufficient screening and treatment. An agenda to deal with rising rates of breast cancer mortality should be drawn up without delay.

AUTHORS' CONTRIBUTION

ATH: Conceptualization, Supervision, Visualization, Writing – original draft. JFB: Formal analysis, Methodology, Software, Visualization, Writing – original draft. GGN: Conceptualization, Data curation, Investigation, Methodology, Project administration, Resources, Supervision, Visualization, Writing – review & editing. SG: Validation, Visualization, Writing – review & editing. AM: Formal analysis, Visualization, Writing – review & editing. FPC: Formal analysis, Visualization, Writing – review & editing. RFJ: Conceptualization, Data curation, Supervision, Visualization, Writing – original draft. CAR: Supervision, Validation, Visualization, Writing – review & editing.

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