


Breast cancer in Brazil: medicine and public health in 20th century


Câncer de mama no Brasil: medicina e saúde pública no século XX

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Abstract

This study discusses the trajectory of breast cancer to becoming a major public health issue and constant topic of discussions in Brazilian society. We trace an extensive profile on the changes in approach concerning breast cancer in Brazil, considering the development of new diagnostic and therapeutic technologies and the power struggles between the different groups involved in their implementation. We show that with new technologies major attention was directed to the prevention of breast cancer, which led to controversies on how it would be done. The analysis is framed as a qualitative study with a historical approach based on studies of medical history and the Social Sciences. The data were collected from medical sources (specialized journals, congress reports, medical thesis and books); institutional and legislative documents; magazines and newspapers; and a corpus of interviews made by the project “History of Cancer: Actors, Scenarios and Public Policies” (Fiocruz/INCA).

Keywords: Breast Cancer; Surgery; Screening; Control; Public Health; Prevention.

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Resumo

Neste artigo, discutimos os caminhos que levaram o câncer de mama ao estatuto de grande problema de saúde pública e tópico constante de debates pela sociedade brasileira. Tendo como marco temporal o século XX, traçamos um amplo perfil das transformações nas abordagens ao câncer de mama no Brasil com base no desenvolvimento de novas tecnologias diagnósticas e terapêuticas e no jogo de forças entre diferentes grupos relacionados à sua implantação. Mostramos como, a partir do desenvolvimento de tecnologias médicas de diagnóstico precoce, deu-se mais atenção ao processo de prevenção à doença, implicando controvérsias sobre a melhor forma de implementar as práticas de prevenção. A análise se caracteriza como um estudo qualitativo de abordagem histórica, dialogando com trabalhos da história da medicina e dos estudos sociais das ciências. A investigação é pautada em fontes médicas (revistas especializadas, anais de congressos, teses, manuais); documentos institucionais e legislativos; jornais e revistas leigas; e um conjunto de entrevistas realizadas pelo projeto “História do Câncer: Atores, Cenários e Políticas Públicas” (Fundação Oswaldo Cruz/ Instituto Nacional de Câncer).

Palavras-chave: Câncer de Mama; Cirurgia; Rastreamento; Controle; Saúde Pública; Prevenção.

Introduction

In the 20th century there were radical changes in the ways of understanding, representing and approaching cancer. With a nonspecific grievance, incurable and low incidence, it has become an evil increasingly known, present and feared by societies. Several social processes contributed to these changes: the development of medical knowledge, new diagnostic and therapeutic technologies, demographic and epidemiological transitions, advances in urbanization and industrialization, medical specialization, etc. In Brazil, the first medical initiatives to act against the disease appeared in the 1920s, but only in the 1940s, in the context of the development of new diagnostic and therapeutic technologies and the expansion of hospital medicine, cancer started to be seen as a public health issue, that is, a disease that should be the target of actions coordinated or carried out by sectors of the State (Teixeira; Fonseca, 2007). This process covered several types of tumors, mainly those of greater notability (either due to the high mortality or the symbolic burden related to them), but it had a different impact among the various cancers. We will discuss here the paths that led breast cancer to the status of an important public health problem and a constant topic of debate by Brazilian society.

In the first half of the 20th century, early detection of the disease was clinically discussed based on the experiences of physicians in service, analyzing which techniques would be most appropriate for diagnosis and discussing the problem in gynecology journals or in journals dedicated to cancer in general. During this period, little was known about its incidence and mortality, and clinical examination prevailed as a form of diagnosis. From the 1940s, with the development of the first specialized institutions, educational campaigns began to emerge, postulating the importance of early diagnosis as the only way to enable more effective treatment. Two decades later, with the growing optimism that breast cancer screening results would be equivalent to those achieved with cervical cancer screening actions, a change in the framework of the disease began (Góes Júnior et al., 1977).

As of the 1970s, the incorporation of imaging tests that allowed the visualization of very early breast lesions, the expansion of female mobilization for women's health care and the restructuring of public health made the discussion about breast cancer screening gain strength in specialized publications, medical circles and the social environment. At first, physicians thought that clinical examination was the most appropriate procedure for screening, because it is inexpensive, it does not depend on sophisticated technology and devices, and it is more accurate than self-examination. In the 1990s, still based on the cervical cancer screening model and against the backdrop of a new health system, now universal, the proposals for screening based on the massive use of mammography began to gain strength (Porto; Teixeira; Silva, 2013).

Breast cancer is currently the most frequent among Brazilian women (except for non-melanoma skin cancer). According to estimates by the National Cancer Institute (Inca, 2019), in 2020, 66,280 new cases of breast cancer should occur, representing 29.7% of cases in the female population. Despite decades of medical and public policy initiatives, the mortality rates of the disease remain high in Brazil. Studies show that it happens because the disease is still diagnosed in advanced stages.

In this article, we outline a broad profile of the transformations in the approaches to breast cancer in Brazil based on the development of new diagnostic and therapeutic technologies and on the power play among different groups related to their implantation. The analysis is characterized as a qualitative study with a historical approach, which dialogues with works of the History of Medicine and the social studies of sciences about the process of social construction of medical technologies and their relations with health practices (Rosenberg, 1992). The investigation is based on medical sources (specialized journals, conference proceedings, theses, manuals); institutional and legislative documents; lay newspapers and magazines; and a set of interviews carried out by the project History of Cancer: Actors, Scenarios and Public Policies (Fundação Oswaldo Cruz/Inca).¹

The ladies' disease and radical mastectomy

The first discussions about breast cancer in Brazilian medicine go back to the beginning of the 20th century. At that time, the disease was approached in isolation by some physicians, mainly through reports of clinical cases in sessions of societies, such as the Society of Medicine and Surgery of Rio de Janeiro (Teixeira; Fonseca, 2007). Breast tumors were considered common in older women of upper classes; although there was no etiological or epidemiological explanation for this phenomenon, they were seen as incurable, with hope of survival only through a surgical procedure: radical mastectomy.

The radical mastectomy was named after William Halsted, an American surgeon who, at the turn of the 19th to the 20th century, had managed to eliminate cancerous tumors in women at the John Hopkins Hospital in Baltimore. His technique consisted of cuts that excised the tumor and a considerable region around the breast, usually resulting in the amputation of a large part of the chest. Halstedian surgery, although considered aggressive at the time, was transformed into the main treatment tool, as it provides better perspectives than any other procedure tried until then (Olson, 2005).

The introduction of radical mastectomy in Brazil was the major turning point in discussions about breast cancer in the first decades of the 20th century, especially after 1920. Articles in specialized journals (*Brazil Médico*, *Revista Brasileira de Medicina*, *Archivos Brasileiros de Medicina*) and theses from the colleges of Rio de Janeiro (Conti, 1912) and Salvador discussed their results, indicating the possibility of women's survival between 3 and 5 years, in the best scenarios; a considerable advance in the eyes of surgeons at the time (Santos Júnior, 1923). However, in order for the surgeries to be successful, it was necessary to bring women into the realm of medical care, and to do so as soon as the disease could be perceived. This challenge was not easy to solve, since, until the beginning

¹ A considerable part of the interviews discussed in the research on the history of breast cancer in Brazil was recently published in the collection Testimonies for the History of Cancer Control in Brazil.

of the 20th century, official medicine shared the population's preference with other healing systems (Messora, 2017). In the case of cancer, the problem was exacerbated by the lack of a therapy against the disease that was seen as effective. For physicians, the population's reluctance to seek medical help resulted in diagnoses of tumors at very advanced stages (Santos Júnior, 1923).

For physicians of the period, it was necessary to always be alert to the signs of breast cancer. The conception prevailed that tumors were formed from inflammatory processes and injuries originating from mechanical shocks, making it essential to pay attention to possible spots, bleeding, lumps and other "anomalies" in the breasts. This format of constant attention (awareness) was common in other countries, such as the United States and France, and came up against, among other aspects, taboos about the female body, hindering the search for professionals and their own knowledge (Aronowitz, 2015).

As of the 1940s, the creation of the National Cancer Service, of the Brazilian Society of Oncology, as well as institutions to assist cancer patients across the country, reconfigured the field of discussions on breast cancer. The expansion of mastectomy use, introduction of new diagnostic technologies and the creation of a surgical field more directed to the disease has led to new debates on combating breast tumors.

Breast cancer and hospital medicine in the mid-twentieth century

The great development of hospital medicine, determined by the expansion of social security medicine, starting in the 1940s, allowed the spread of surgeries for breast cancer. With regard to public health, the actions related to the disease were based on the creation of campaigns to clarify the need for early diagnosis. In this regard, the emergence of the National Cancer Service in 1942 strengthened the notion of health education as the best way to control the disease. However, if the discovery of the disease in a timely manner was seen as part of the responsibility of women with their bodies,

state actions for diagnosis and treatment still had a very short reach, leaving without coverage the vast majority of women in need of treatment.

The expansion of knowledge and practices aimed at female cancers, in this period, was based on the creation and development of some specialized institutions. The Institute of Gynecology of the Medical School of Rio de Janeiro, The Gynecological Cancer Service of the Red Cross and the Aristides Maltez Hospital (BA) were the bases of organization of the field of oncology focused on women's health (Lana, 2016). From these institutions, different research, intervention and organization initiatives in the field would emerge, directed mainly at cervical cancer, which, to some extent, included actions to expand the diagnosis of breast cancer.

The organization of the professional field specifically linked to breast cancer begins with the creation of the Brazilian Society of Mammary Pathology, in 1959. As a result of the efforts of Inca's gynecologist and oncologist Alberto Coutinho, this society came to light from the meeting of physicians in their specialization course, held at the Society of Medicine and Surgery of Rio de Janeiro. Founded at the headquarters of SMCRJ, the Society of Mammary Pathology in its early years had as main objective the search for the transformation of mastology into a medical specialty. From the 1970s, then renamed the Brazilian Society of Mastology (SBM), it began to have regional offices in several states in the country (MG, RN, SC, etc.), offering continuing education to surgeons and gynecologists, and began to encourage public and private actions to control breast cancer in the country. SBM has become an outstanding institution in the elaboration of policies and norms directed to the disease (Porto; Teixeira; Silva, 2013).

In relation to practices aimed at the disease, the greatest changes began in the 1960s. During this period, following the criticism of radical Halsted surgery, which arose in developed countries, some Brazilian surgeons began to propose more conservative surgeries for cancer in initial staging. But regardless of the type of surgery proposed, breast cancer continued to be seen as a fatal disease, whose surgery only extended the patient's survival (Ribeiro, 1965).

Medical technologies and the expansion of diagnosis

Since the 1960s, two phenomena have considerably altered the context of breast tumors by Brazilian medicine and public health. On the one hand, the introduction of new diagnostic techniques has broadened the discussions and expectations surrounding the realization of early diagnosis. On the other hand, the qualification of this type of cancer as a typical problem in more developed urbanized regions, existing since the beginning of the 19th century, has been reinforced by epidemiological studies, increasing concerns about the disease in some states and cities in the country (Araújo Neto, 2019).

Since the beginning of the 20th century, Western medicine has sought effective methods of detecting tumors in breasts, since clinical analysis has limitations in the ability to locate small nodules. In addition, the increase in the sense of scientific objectivity in medicine, favoring electronic and digital visualization and biochemical and cytological readings of the body, boosted the creation of diagnostic imaging technologies, based on the radiography equipment. In Brazil, some technologies have been tested since the 1940s, *pari passu* with the incorporation of radiology into the national medical practice. Procedures such as aeromamography, consisting of the insertion of air in the breast to detach blockages in the gland by radiological image, were tested by physicians in their private services; but the high cost of the equipment, the difficulties in establishing a specific semiology for the disease and the very lack of training of the clinical eye for diagnostic imaging prevented the dissemination of new procedures throughout the country (Coutinho, 1941).

In the 1960s, the concern with early diagnosis was accompanied by the introduction of several new techniques to the daily lives of some public and private services. In a chapter of a voluminous oncology manual published in 1967, São Paulo's gynecologist João Sampaio Góes Júnior (1967) indicated the existence of five viable methods for the early diagnosis of breast tumors: the clinical examination; biopsy; cytology; transillumination; and mastography. The first alternative was more

common to the medical practice of the period, being directly linked to the clinicians' expertise; biopsy and cytology were in the pathologists' orbit. Transillumination and mastography were imaging techniques; the first resulting from the application of intense light in a dark room, highlighting shadows in regions with nodules; and the second, in turn, was the breast radiography, a precursor to mammography.

Although he considered the existence of more and more "weapons to fight" the disease to be very relevant, the physician from São Paulo bet on the primacy of clinical breast examination as the correct tool for the job:

The main factor for the early diagnosis of breast carcinoma lies in the thorough, systematic propedeutics of the breasts of all women and in all medical visits. We must remember that a large number of tumors, benign or malignant, are discovered by examination and ignored by their carriers. Physicians should, at all times, look for any signs that may suggest a pathological condition, especially breast cancer. Obstetricians who accompany their patients, in frequent prenatal consultations, should examine the breasts with the utmost care, as the glandular engorgement of pregnancy can mask the presence of small nodules and, only late, authorize the diagnosis. (Góes Júnior, 1967, p. 469, our translation)

Góes Júnior's argument was related to the idea of routine clinical examinations, with the regular attendance of women in medical offices. This profile was limited to urban middle classes, who had access to the social security system through assistance institutes by labor class. The physician says that the interpretation that certain types of cancer, such as breast cancer, would be specific to urban and industrialized regions, in which women would have access to better sanitary and hygiene conditions, allowing for aging; in addition to having a lifestyle associated with cancer risk (Mirra; Cole; MacMahon, 1971).

For other types of cancer, such as cervical cancer, the situation was reversed: a problem of poverty, poor health and difficulty in accessing services. In this case, the perception that a large number

of cases were outside the sphere of social security medicine was an important point in the adoption of a new strategy to reduce mortality, based on the use of diagnostic tests in a healthy population at higher risk, in order to detect the precursor lesions of the disease at the earliest possible stage. This strategy, (screening), had cytopathological examination (Papanicolaou test) as its central technique, and was put into practice initially in public health programs linked to universities (Teixeira, 2015).

In Brazil, similarly to what was happening in Europe and the United States, the notion that cervical cancer screening could be the model for other diseases prompted the thought of using the same specific prevention methodology for breast cancer (Löwy, 2010). Regardless of the fact that a breast cancer screening campaign could take place through self-examination, clinical examination or, later on, mammography, the possibility of screening women to avoid the disease opened a new perspective for Brazilian public health.

The introduction of mammography and the first screening proposals

The 1970s would bring a major transformation in the quest to control breast cancer. In the international context, since the previous decade, the expansion of the use of various technologies to search for very small tumors, and the increasing acceptance of radiographic images for the early diagnosis of the disease, were already present. But since then, clinical trials showing the value of mammographic screening in decreasing mortality rates due to the disease turn this technology into a gold standard in the control of breast cancer. In Brazil, in the same period, imaging exams became the orbit of interest to physicians of the Society of Mammary Pathology and gynecologists. The arrival of the first mammographs in the country, still in 1970, aroused curiosity in the new technology and created new demands for public health.

The first mammograph was imported by Sampaio Góes to the Brazilian Institute of Studies and Research in Oncology and Obstetrics (Ibepog), a public-private partnership run by him. Purchased from the *Companie Generale de Radiologie*

(CGR), the mammograph was initially installed in Sampaio Góes' private office, to allow him to expand his knowledge on the use of the equipment (Teixeira, 2015). Later, Sampaio Góes would send his son, João Carlos Guedes Sampaio Góes, to France to specialize in the new technology.

In 1972, the Luiza Gomes de Lemos Research Center also acquired a mammograph and began performing breast cancer screening tests, in an opportunistic way on women who were attended at their gynecological center. In a short time, the center also began to develop campaigns to track the disease in several neighborhoods in Guanabara using a truck turned into a mobile unit. In the neighborhoods visited, communities were instructed, through lectures, on the need for periodic self-examination and mammographic examination. In a short time, the number of visits to the center was greatly increased due to the programs carried out in different neighborhoods. In 1974, the center renovated the radiography facilities, acquired new mammograph and thermography equipment. According to the report of that year, in 24 months, around 12,000 women underwent mammography exams at their facilities (Temperini, 2012).

Within the scope of prevention possibilities, screening mammography was seen by many physicians as "the technology of the future" (Mesa..., 1976). Despite this optimism, and even the fact that there are already mammographic screening initiatives in the country (as observed in the preceding paragraph), the vision of cancer control had the largest number of defenders in screening by self-examination and clinical examination. Several events make these choices clear.

Still in 1973, Sampaio Góes developed a pilot program for cervical and breast cancer screening in São Caetano, in a partnership between the Brazilian Institute For Cancer Control, the São Paulo State Health Secretariat and the Hygiene Secretariat of São Caetano. The developed protocol provided for physical examination performed by non-physicians; clinical examination in screened cases; mammography; puncture; and cytology (Góes Júnior et al., 1977). In 1974, the National Cancer Division created the Operative Group for Breast Cancer Control. The group recommended clinical

examination of the breasts every six months, or every four months for high-risk patients (Rostein, 1976). Three years later, at the 4th Congress of the Brazilian Society of Mastology, held in Campinas, several studies focused on the assessment of mammography as a form of screening test stated that, although the technique was efficient, its price and need of human material to operate it made it not the best way to detect the disease, self-examination and clinical examination being the paths to be followed (Barbosa, 1977, p. 85).

It is important to note that, although Brazilian physicians advocated the use of self-examination and clinical examination as the main form of disease control, the development of mastology and the training of specialists followed the opposite direction. The best example of this is the fact that the guest of honor at the congress was physician Philip Strax, who had developed several studies proving the importance of mammography in reducing breast cancer mortality, and he created the first mobile mammography service in the city of New York.

Risk medicine and the gender of breast cancer

In the 1970s, the first statistical data obtained from hospital-based and population-based cancer registries made it possible to further discuss the risk factors associated with breast cancer and primary disease prevention strategies (Araújo Neto, 2019). The strengthening of the vision of breast cancer as a health problem in the urban world, affecting mainly middle-class women over 50, served as a parameter for debates about the disease and, above all, the patients.

As Aronowitz (2015) points out, the development of risky medicine, guided by epidemiological knowledge, had as major consequences the mapping of lifestyles and substances capable of increasing the chances of illness and the convergence of the risk experience with that of the disease, mainly for chronic degenerative diseases.

Regarding the lifestyle of urban women, two aspects that constituted an image of the feminine gained prominence in this period: motherhood and the use of birth control pills. On the one hand, pregnancy and breastfeeding have been qualified

as processes that help women in preventing breast cancer; however, women should not have many children (multiparous), as it would represent a risk factor for cervical cancer (Amamentar..., 1971, p. 3). On the other hand, the use of contraceptive pills was the subject of much debate in the 1970s, mainly due to the proposal by the National Congress to prohibit the sale of the drug in the country.

The positions on the subject were heterogeneous. In general, it was considered that the excessive use of pills would increase the chances of women developing breast cancer, with the risk varying according to the time of consumption of the product. Based on this, some physicians, such as gynecologist Salles Soares, a professor at the Medical School of Guanabara, suggested “the pills, as well as the cigarette, must be put on the list of carcinogenic products by INCA” (Médico..., 1970, p. 7, our translation).

The discussion about the risks posed by birth control pills continued during the 1970s, with the main key being its prohibition. Despite this, there were no prohibitive measures on the part of the Ministry of Health in the period, only the medicalization of the pill from the requirement to present the prescription for obtaining it. In the context of strengthening the view of motherhood as a woman’s choice and the need for birth control in developing countries, the speeches about the increased risk of breast cancer due to the use of the pills had a limited reach.

As to the convergence of the experience between risk and disease in breast cancer, the consequences of risky medicine fall directly on the relationships of women with their own bodies, which are increasingly seen as ill as they fit into the greater risk of illness. Recently, the practice of prophylactic mastectomy, that is, removal of the breasts to prevent the formation of tumors, has gained prominence. However, practices of this type are not new, and gained space in medical debates between the 1960s and 1980s. During this period, one of the risk factors suggested by epidemiological studies concerned the hormonal load of women, leading to the suggestion of chemical or even surgical interventions, such as oophorectomy (removal of the ovary), as a way to reduce the chances of becoming ill.

Breast cancer and public health

In the 1980s, in a context of the weakening exception regime experienced in Brazil, the feminist movement, which had emerged in the country in a timid way in the previous decade, gained more strength, became institutionalized and started to seek participation in the formulation of public policies. In addition to the demands for equal opportunities, its new agenda contained issues related to violence against women and health (Pinto, 2003). The feminist movement changed the way of thinking about the State's relationship with women's health. Until then, there was no specific policy aimed at the health of this group, and the State summarized its concerns about the role of women in reproduction, encouraging, in a veiled way, interventionist actions, at the time recommended by the United States. It was precisely in the context of discussions about body and reproduction that issues about women's health emerged in feminist discourse (Mesquita, 2010).

In 1983, when the military government announced to the congress the need to deepen the discussions on population growth, feminist activists, groups focused on the reform of the health system and part of the medical class critical to the purely biologicist view of health, allied themselves in the seeking to constitute a broader program that does not summarize women's health to reproductive issues. In 1984, as a result of this process, the Comprehensive Assistance Program for Women's Health (PAISM) was created. The program proposed educational, preventive, diagnostic, treatment and recovery actions. It provided assistance to women in gynecological clinic, in prenatal, delivery and puerperium, in climacteric, in family planning, with sexually transmitted diseases, cervical and breast cancer, in addition to other needs identified from the population profile of women.

The ideals that shaped the policy of comprehensive health care for women were born in the same institutional nucleus that put forward the first cervical cancer screening campaigns in Campinas. Technicians from the Universidade de Campinas (Unicamp) were the main formulators of what would become PAISM. From an interlocution with the women's movement, they sought to integrate health

actions of a medical nature, such as the control of cervical cancer and breast cancer to other, broader ones, directed at the well-being and psychological and emotional aspects of women (Rosa, 2011).

The group of researchers from Campinas, which started the demand for public health programs aimed at breast cancer, was led by physician Jose Aristodemo Pinotti, having as one of its main collaborators Luiz Carlos Zeferino, other physicians at the Women's Health center, from the Universidade de São Paulo and from the Center for Comprehensive Assistance to Women's Health (CAISM), from Unicamp. Having as a reference the proposals related to the planning and organization of hierarchical services, based on the organization and distribution of care in the different hierarchical levels of health, the researchers from both universities proposed the expansion of public policies in relation to women based on light technologies and far-reaching practices, many of them related to primary care (Zeferino; Pinotti; Teixeira, 1987). In this sense, they postulated that mammography breast cancer screening programs were not adapted to the economic reality of our country, and the most appropriate strategy for controlling the disease was screening based on clinical examinations and self-exams (Pinotti et al., 1992).

Another group defending similar ideas in relation to the control of breast cancer was based on the Inca. In 1988, with the creation of the Brazilian National Health System (SUS), Inca became responsible for cancer policies in the country, starting to coordinate the Oncology Program (Pro-Onco), created by the federal government in 1987 with the objective of expanding the prevention and early diagnosis of cancer at the national level. From that period, the articles by Pro-Onco researchers began to reaffirm the importance of mammographic screening in reducing breast cancer mortality. Following the postulations of the Union for International Cancer Control (UICC) and the Pan American Health Organization (PAHO), they also proposed that in developing countries, screening should be preceded by studies and structures that showed its viability. In this sense, they indicated clinical examinations and self-exams as a way of early detection of breast cancer (Lopes; Abreu; Gadelha, 1993).

Reconfiguring old issues: breast cancer and the structuring of SUS

In the late 1980s, a health reform gave rise to a new health system in Brazil. Public and universal - although living with a private subsystem, responsible for serving 25% of the population - SUS guided a new arrangement in the strategy definition dynamics in the area, with greater participation by society, opening up the possibility of lobbies and articulations for the mobilization of agendas for specific groups.

In the case of breast cancer, the scenario shaped by the new health system and the development of evidence-based medicine and medical protocols allowed the reconfiguration of questions that have been asked for a long time, among which the use of conservative therapeutic practices and the proposals on screening for breast cancer in the country stand out.

The combination of mastectomy with other therapeutic techniques, such as chemotherapy, hormone therapy and radiotherapy, allowed for a deeper criticism of the Halstedian method and the application of less aggressive procedures. The concern with the patients' quality of life has gained more attention from the care institutions, with the performance of professionals from the psychological, social service and nursing fields in the care of mastectomized patients (Bervian; Girardon-Perlinni, 2006).

The screening, in turn, configured a scenario of strong debates without defining a consensus on which strategy to adopt for the control of breast cancer and how to establish a policy for this. For some, it was necessary to create a nationally organized tracking program. Others proposed maintaining opportunistic screening activities. With regard to the indication of the exam there was also dissent: for public health physicians, the age group from 50 to 69 years old was the population to whom the exam should be directed. Some experts, however, proposed that women should undergo annual examinations from the age of 40.

In this context of uncertainty, in 2000, the Inca linked breast cancer to the national cervical cancer screening program that had been coordinating - Viva Mulher. At first, the proposal was to diagnose

clinically detectable tumors through self-examination and clinical breast examination. As of 2002, this guideline changed to the use of mammography, with the aim of detecting tumors that are not clinically detectable. Although the Ministry of Health purchased 50 mammography devices and distributed them to some municipal health departments for this purpose, the initiative did not generate a consolidated screening program (Porto; Teixeira, 2013).

In 2003, the Ministry of Health, INCA and the Brazilian Society of Mastology held a wide workshop, aiming to align the recommendations regarding the breast cancer control. It was attended by technicians from the Ministry, managers, researchers and representatives of scientific societies and women's organizations. The resulting consensus document recommended screening through an annual clinical breast exam for women aged 40 and older and a biennial mammographic exam for women aged 50 to 69. For women at high risk, the recommendation is to perform a clinical breast exam and annual mammography from the age of 35. In addition, he emphasized the need to ensure access to diagnosis, treatment and follow-up for all women with changes in the tests performed. In the wake of the publication of the consensus document, the Ministry of Health issued new guidelines that reinforced the importance of breast cancer control (INCA, 2004).

Despite its name, the consensus document did not close the controversies about the prevention of breast cancer in the country. The recommendation for annual screening for women between 50 and 69 years old was not accepted by several medical societies, who continued to postulate that screening should take place after 40 years of age. At this time, the greater mobilization of groups aligned with the proposals of private producers of health supplies, regarding the expansion of the mammography use, reconfigure the arena of discussions on the control of breast cancer and, specifically, the use of mammography. If, until then, the debates on screening and the possibilities of using mammography were limited to a portion of the medical field, especially Inca, in the 21st century the theme gained greater scope, mainly due to the emergence of the first associations of breast cancer

patients (Porto; Teixeira, 2013). From 2006, with the creation of the Brazilian Federation of Philanthropic Institutions to Support Breast Health (Femama), the demands of different patient associations and specialist associations in relation to the expansion of the age range of the screening test and of greater coverage of the exam has intensified, giving a new profile to the problem of breast cancer.

Final remarks

In this article, we discussed the transformations in medical and public health approaches to breast cancer in Brazil throughout the 20th century. The introduction of new technologies and knowledge from the medical field to cancer care played a fundamental role in defining ways of thinking about the disease and established points of debate that have an impact on the current scenario of breast cancer control in the country.

More specifically, we explored how changes in approaches to the disease were conditioned by the negotiations of different actors and social groups around technologies. In the first half of the twentieth century, the authority of surgeons regarding the practice of mastectomy defined not only a space for action, but also a universe of relationships between specialist physicians, public health and sick women, dominated by surgeons. Especially since the 1970s; however, the entry into play of a new set of knowledge - linked to risky medicine, epidemiology and biomedicine - and technologies, especially those for breast visualization, reoriented the axis of discussions about the disease for prevention. Articulated with the demands of women's movements, these knowledge and techniques made it possible to formulate specific discussions about cancer and women's health.

However, as was also explored in the article, the entry of new actors implied an expansion of the scope of disputes over technologies, strengthening controversies about how breast cancer prevention should be carried out in Brazil. In this discussion, the different agendas of the public sector, private medicine and sick women pose impasses that could not be resolved through consensus, recommendations and protocols.

In the first two decades of the 21st century, the debate on breast cancer has gained more space on the public scene, mainly due to Pink October, an event to intensify educational campaigns and other actions related to the disease. At various times, the problem of breast cancer appears to be characterized in a simplified way, as a result of the interests of the private sector, the inefficiency of public authorities, or even ignorance of the population regarding the procedures for the prevention, diagnosis and treatment of tumors. We believe that a historical and sociological reading of the approaches to this type of cancer, important in the daily life of the Brazilian female population, presents different paths of discussion, taking into account the diversity of views, projects and concerns involved in the breast cancer control.

In the last decade, the issue of screening for breast cancer has had greater social strength in relation to other aspects of controlling the disease, being the main topic debated in the field of public health and the most widely reported in the press. However, other issues, such as access to treatment and new cutting-edge technologies (example of target therapies), in addition to mobilizations around the care of mastectomized women outside the traditional scope of medicine and health, have gained space through patient associations, social networks, and other forums. The dynamism of the discussions and concerns about breast cancer shows the importance that the disease has assumed in society, and demand more research on the social and historical aspects of cancer in the country.

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Authors' contributions

Luiz Antonio Teixeira and Luiz Alves Araújo Neto equally contributed to the conception, research of sources and writing of the manuscript. Both revised the manuscript and approved the final version.

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