Evaluability study of actions for early detection of breast cancer in primary care

Estudo de avaliabilidade das ações para detecção precoce do câncer de mama na atenção primária

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ABSTRACT The article aims to develop an evaluative model of actions for the early detection of breast cancer in primary care. This evaluability study was conducted through document analysis, literature review, and consensus meeting stages to prepare the evaluative matrix. The result was the development of the Analysis and Judgment Matrix, composed of 14 indicators aggregated into two dimensions. Applying the evaluative model will allow the identification of the weaknesses and strengths of actions for the early detection of breast cancer.

KEYWORDS Health evaluation. Primary Health Care. Breast neoplasms.

RESUMO *O artigo tem como objetivo desenvolver um modelo avaliativo das ações de detecção precoce do câncer de mama na atenção primária. Trata-se de um estudo de avaliabilidade, realizado pelas etapas de análise documental, revisão de literatura e reunião de consenso para elaboração da matriz avaliativa. O resultado obtido foi o desenvolvimento da Matriz de Análise e Julgamento, composta por 14 indicadores, agregados em duas dimensões. A aplicação do modelo avaliativo permitirá a identificação das fragilidades e potencialidades das ações de detecção precoce do câncer de mama.*

PALAVRAS-CHAVE *Avaliação em saúde. Atenção Primária à Saúde. Neoplasias de mama.*

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Introduction

Cancer has become a public health problem worldwide as it emerges as a chronic non-communicable disease with high morbidity and mortality rates[1]. Malignant breast cancer is the second type of cancer with the highest incidence, with more than 2.1 million new cases per year and just over 626,000 deaths resulting from the disease[2]. In Brazil, breast cancer is one of the leading causes of morbidity and mortality among women in all regions of the country[3]. It is estimated that 66,280 new cases of breast cancer occurred each year of the triennium between 2020 and 2022, corresponding to an estimated risk of 61 new cases per 100,000 Brazilian women[2,3].

The development of breast cancer stems from factors related to age, genetics, lifestyle, and environmental exposure[4], and it is recognized that one-third of all breast cancer cases worldwide could be cured if diagnosed early[5]. For the World Health Organization, breast cancer control depends on four components: 1) health promotion and cancer prevention actions, being the public health strategy with the best cost-benefit ratio; 2) early detection; 3) treatment and rehabilitation; and 4) palliative care[5].

In Brazil, breast cancer control is a priority on the health agenda and is part of the Strategic Action Plan to Combat Chronic Non-communicable Diseases (NCDs). According to the National Policy for Cancer Prevention and Control[6], care coordination for people with cancer, including breast cancer, is Primary Health Care (PHC), integrated into the Health Care Network (HCN). Moreover, for the early detection of breast cancer to develop effectively, PHC has a predominant role in risk and protection factors and in the risk classification for its development[7].

Therefore, health evaluation can contribute to identifying factors that enhance or weaken the planning and execution of early detection actions for breast cancer. Furthermore, evaluative studies can contribute to minimizing the harmful effects of late detection, including the identification of technical assistance and political-financial barriers, which can result in reduced costs with the treatment of the disease already established[4].

This article presents an evaluative model of the actions for early detection of breast cancer in PHC.

Methodology

This is an evaluability study, with a qualitative approach, based on the methodology proposed by Thurston and Ramaliu[8]. The evaluability study comprises the non-sequential steps of a) description of the service, identifying goals, objectives, and activities; b) identification and review of documents related to the program; c) modeling the available resources, expected impacts, and established connections; d) understanding of the operation of the program; e) development of a logical evaluation model; f) identification of the actors interested in the program and; g) obtaining agreement on the evaluation procedure[8,9].

The study was conducted between May 2021 and January 2022. The first stage consisted of document analysis to expand knowledge about the object and understand how early detection actions of breast cancer in PHC are inserted in the Brazilian context. *Table 1* shows the documents used in this stage of the study. The documents published between 2006 and 2020 were observed, considering the publication of Ordinance MS/GM No. 399/2006, which includes objectives and goals for controlling breast cancer and starts the discussion on the theme in the Unified Health System (SUS), and finalizing in the last publication of an official document with the Guideline for Early Detection of Breast Cancer.

Table 1. Laws, ordinances, guidelines, and protocols used in the preparation of the theoretical and logical models of actions for early detection of breast cancer

DOCUMENT	CONTENT	CONTRIBUTION
Ordinance MS/GM No. 399 of February 22, 2006.	Among the priorities of the Pact for Life, a commitment among SUS managers, aims at goals for breast cancer control.	Description, objectives, and goals of the program.
Primary Care Notebooks, No. 13. Control of cervical and breast cancers (2013).	It contributes to organizing the Cervical and Breast Cancer Care Network in the Unified Health System (SUS). It aims to guide care for women, technically subsidizing primary care professionals.	Description, organization, objectives, and operation of the Program.
Ordinance MS/GM No. 483 of April 1, 2014.	It redefines the Health Care Network for People with Chronic Diseases within the Unified Health System (SUS).	Program regulations, goals, objectives. Construction of the Logical Model and Theoretical Model.
Ordinance MS/GM No. 874, of May 16, 2013.	It establishes the National Policy for the Prevention and Control of Cancer in the Health Care Network of People with Chronic Diseases in the Unified Health System (SUS).	Description, organization, objectives, and operation of the Program.
Ordinance MS/GM No. 3,394, of December 30, 2013.	It promotes monitoring actions related to early detection, diagnostic confirmation, and the start of treatment through the Cancer Information System (SISCAN).	Program Normative, goals, objectives, activities, and results.
Strategic Action Plan to Combat Non-communicable Chronic Diseases (NCDs) in Brazil, 2011–2022 (2011).	It proposes national goals to increase mammography coverage in women aged 50 to 69; improve breast cancer screening actions; and universalize mammography screening for all women.	Program Normative, goals, objectives, activities, and results.
Guideline for the early detection of breast cancer in Brazil (2015).	It establishes guidelines to expand and qualify the early detection of breast cancer, both relative to the organization of the line of care, as well as to support professionals in clinical practices.	Description, organization, objectives, activities, and results. Construction of the Logical Model and Theoretical Model.

Source: Prepared by the authors.

Still in the first stage, the literature review covered the consultation in dissertations, theses, and scientific articles, related to the analysis of early detection actions of breast cancer, mainly addressing the evaluative aspects. The following databases were consulted: PubMed, SciELO, Web of Science, Bireme, the Thesis Database of the Coordination for the Improvement of Higher Education Personnel (CAPES), and the Brazilian Digital Library of Theses and Dissertations (BDTD). The data collection period for the literature review was from 2015 to 2021. To search for scientific articles, the following key expressions and combinations of operators were used: "Breast Neoplasms" AND "Early Detection of Cancer" AND "Health Evaluation" AND "Screening". For the search for theses and dissertations, the following key expressions and operators were used: "*Detecção Precoce de Câncer*" AND "*Câncer de mama*" AND "*Atenção Básica*" OR "*Atenção Primária à Saúde*". The materials were analyzed to use the fundamental information of interest to the object of study.

The second stage of the study consisted of semi-structured interviews with four key informants: two health professionals (a PHC nursing professional and a medical professional from the municipal regulation sector); a user who used health services during her breast cancer diagnosis, treatment, and rehabilitation process; and a representative of a social organization to combat breast cancer. Key informants were

indicated from contact with social organizations and public agencies. The interviews were conducted from September to October 2021, on an online platform, by signing the Free and Informed Consent Form (FICF). The FICFs were read and signed, via a digital platform, before the beginning of the interview. The interviews were recorded with video and audio and later transcribed in their entirety. The content analysis of the interviews took place in three stages: 1) pre-analysis, which involves the organization of the material and systematization of the categories; 2) exploration of the material and categorization, analytical description, and deepening of the content; 3) treatment of the results, through critical, and reflective analysis. After analyzing the content of the interviews, the following categories were identified: 1) experiences with health services, 2) weaknesses and potentialities of the early diagnosis, screening, and treatment process, and 3) activities and actions directed to breast cancer to be developed.

The third stage consisted of preparing the Theoretical Model (TM) and the Logical Model (LM) of the actions for early detection of breast cancer in PHC, taking into account the results of the previous stages. The TM represents how the program works ideally, extrapolating the understanding of other factors that may interfere with the program, with specifications about the problem, the context conditions, the content, and attributes necessary to produce the expected effects in isolation or in full[10]. The LM is a visual schema representing the program's functioning, providing an objective basis for how the elements articulate operationalizing it[11]. Both models built considered the social, political, cultural, and economic context in which the theme is inserted.

After the TM and LM construction process, still in the third stage, a proposal for an Analysis and Judgment Matrix (AJM) composed of dimensions, indicators, measures, and parameters was prepared with the respective sources of evidence. The traditional consensus committee technique was adopted to validate the AJM. The traditional consensus committee allows the involvement of selected experts for an open discussion on the subject, in which there is the possibility of exchanging ideas and confronting divergent opinions[12].

The fourth stage of the study consisted of performing the traditional consensus committee technique. To this end, a consensus workshop was held with the participation of five specialists: health professionals of the PHC, professors of the Graduate Program in Collective Health of the Federal University of Santa Catarina (UFSC), and managers of the PHC of the Department of Women's Health. The experts were invited via email to participate and then received the AJM for consideration. The consensus workshop was held from December 20, 2021, to January 12, 2022. The experts were invited to a virtual meeting to present the pre-established dimensions, criteria, indicators, and measures; only two specialists participated in this meeting. For the other specialists who could not participate in the meeting, the AJM was sent via electronic mail, with a deadline for expressing their agreement or disagreement with the proposed evaluation model. Finally, only three experts submitted their considerations.

After the consensus workshop, all contributions were analyzed and incorporated into the proposed evaluation model. There were deletions, inclusions, or complements of indicators based on the discussions and justifications presented by the experts. It is noteworthy that the elaboration of the AJM allows the descriptive analysis of all the components of the analyzed program.

To conduct the research, the recommendations of Resolution No. 466/2012 of the National Health Council were adopted. The study was submitted and approved at Plataforma Brasil under CAAE 48419021.0.0000.0121, opinion CEPSH/UFSC No. 4,944,137, issued on August 31, 2021.

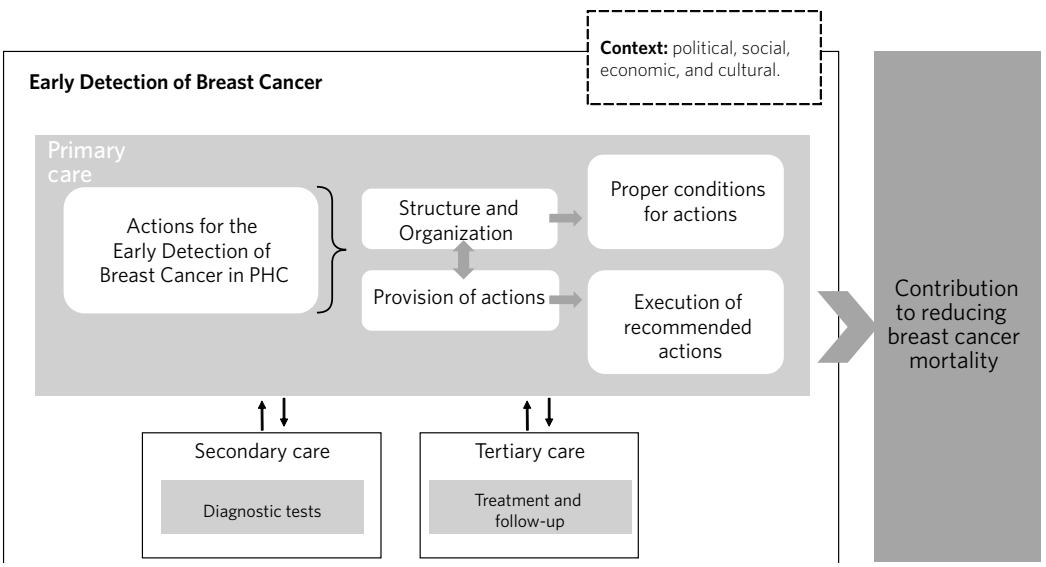
Results and discussion

The organization of early detection actions of breast cancer in SUS

The actions for early detection of breast cancer are not included in a specific program, but in public policies, such as the National Policy for Integral Attention to Women's Health and the National Policy for the Prevention and Control of Cancer, in addition to being established in official documents of the Ministry of Health, such as the 'Guidelines for the early detection of breast cancer in Brazil', which aims to define the actions and services that must be developed at the different points of the HCN, taking into account the level of scientific evidence for defining benefits and harms thereof[6].

The MT of the actions for early detection of breast cancer proposed by this study is in *figure 1*. Such actions are inserted in each point that make up the HCN through lines of care, including health promotion and cancer prevention, early detection, timely treatment, rehabilitation, and palliative care[5,6,13]. They are systematic and integrated actions that require interprofessional collaboration and aim to reduce the incidence, morbidity, and mortality caused by breast cancer. For the actions developed to impact the health situation, the management work of the HCN requires an expanded view of the managers, with formulation and strategic decisions, to integrate and coordinate all the necessary flows[14].

Figure 1. Theoretical Model of the actions for early detection of breast cancer



Source: Prepared by the authors.

The PHC has as its physical structure the Basic Health Units (BHU), which should be organized according to the Family Health Strategy (FHS) and have the responsibility of communication center of the HCN, coordinating flows and counterflows. Secondary and tertiary care offer specialized services with greater technological density, performing

diagnoses and treatments, including chemotherapy, radiotherapy, and immunotherapy[15]. Also, early detection actions for breast cancer should permeate health education and communication, cancer surveillance, and health risk factors[16].

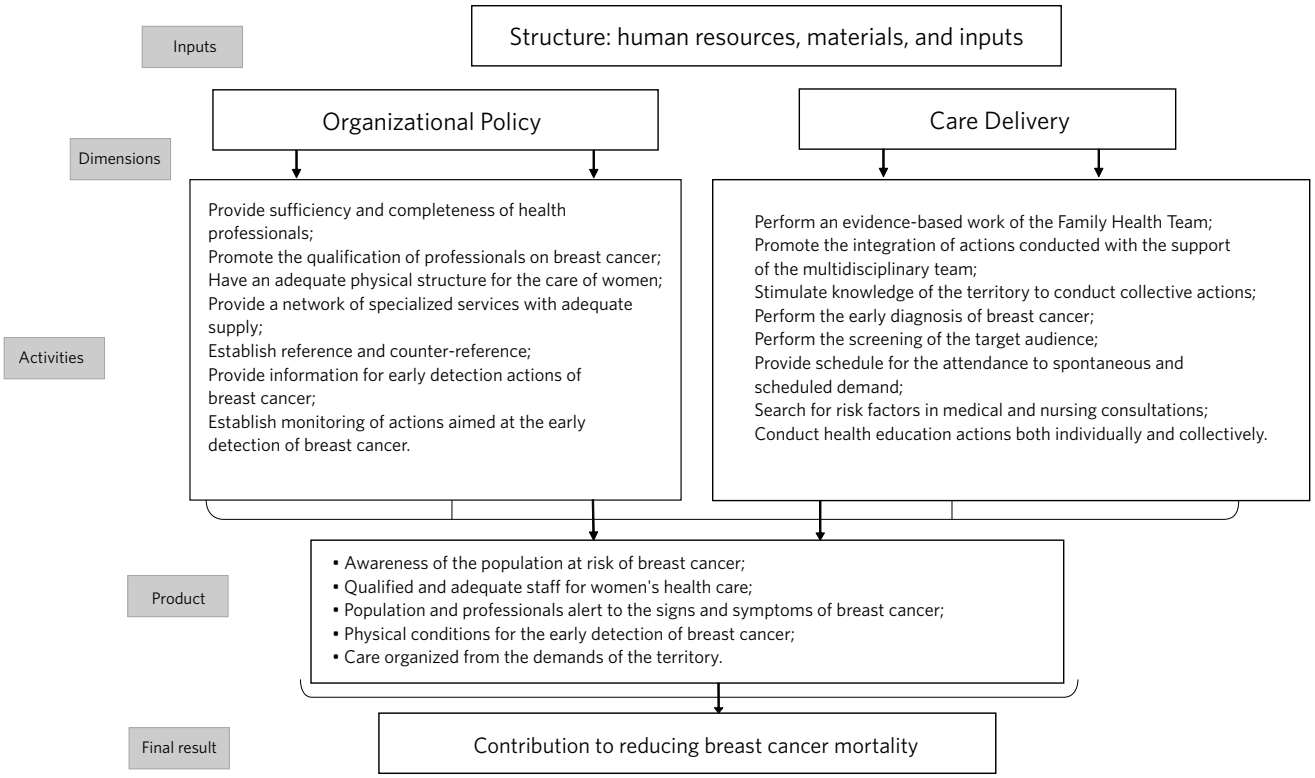
PHC and early detection of breast cancer

In HCN, PHC is recognized as the first contact service for women with or without symptoms related to breast cancer. In the TM proposed by this study, the PHC stands out for establishing a link between all other actions and services that make up the HCN. For this to occur, two components are required: 1) adequate structure and 2) organization for providing actions for early detection. For both, management must be shared between the three federative entities. Concerning municipal management, the responsibility of providing adequate and trained human resources to work in PHC should be highlighted, especially with regard to the performance of early detection actions for breast cancer based on scientific evidence[17].

The Ministry of Health recommends the following actions related to breast cancer to be conducted by professionals in PHC: investigation of risk factors for breast cancer (including age, genetic, and endocrine factors); individualized clinical follow-up of women at high risk of breast cancer; promotion of educational actions to raise awareness, individually or collectively, that promote community mobilization and participation; educational guidance, without the recommendation of a specific technique, for the casual discovery of small breast changes; Clinical Breast Examination (CBE) in all women from the age of 40 and, from 35, in those belonging to groups at risk; request for mammography for women aged 50 to 69 years old; request for annual mammography for women aged 35 years or older at high risk of developing breast cancer[17]. The care model adopted by Brazil to conduct actions directed at breast cancer is known as 'opportunistic'. It means that screening is passive, where the examination is offered in a timely and non-systematic manner, which hinders its effectiveness and applicability[1]. It is recognized that this care model may not reach the entire target population and expose women to the risk of mammographic screening for misuse of technology[4]. On the other hand, the organized model occurs with active planning of the target population, periodicity of the examination, convocation, and follow-up of suspected cases with the availability of diagnostic tests, treatment, and monitoring of stages[1,4]. This assists in evaluating the implementation of the program and quality control actions of recommended exams.

Figure 2 presents the LM proposal of breast cancer detection actions in PHC, aiming to explain the actions, the expected results, and the causal relationships between the elements. According to the National Policy on Cancer Prevention and Control, conducting actions for early detection of breast cancer is expected to reduce exposure to risk factors for the disease, decrease mortality from breast cancer, and improve the quality of life of women with breast cancer cancer[7]. However, social and economic inequalities and cultural differences have repercussions on the increasing incidence and mortality of breast cancer[18]. Moreover, contextual factors can interfere with the proper organization and implementation of early detection actions, including situations of social vulnerability; barriers to access to actions and services offered; care models not based on PHC; women's role in society; non-governmental organizations without ties to an expanded care network, whether public or private[19].

Figure 2. Logical Model of the actions for early detection of breast cancer in Primary Health Care



Source: Prepared by the authors.

Analysis and Judgment Matrix for early detection actions of breast cancer

In the proposed LM, the political-organizational dimension comprises the administrative and organizational aspects necessary for the actions of early detection of breast cancer. Thus, the PHC must have health professionals trained, qualified, and in sufficient numbers to guarantee the coverage of actions for the target population of early detection of breast cancer[20].

Also, relative to LM, the care dimension includes actions related to the work process of the Family Health and/or Primary Care teams. The actions for early detection of breast cancer offered in PHC are fundamental for reducing mortality from the disease and improving the quality of life of women[13]. For early detection actions to be resolutive, it is considered that the population should be trained on the signs and symptoms of breast cancer, which results from health teams with defined work processes, acting under the logic of the health needs of the territories listed[17].

The AJM is in *table 2* and consists of two dimensions and 14 indicators, with their respective measurements, parameters, the maximum expected score for each component, and sources of evidence.

Table 2. Analysis and Judgment Matrix of early detection actions of breast cancer in primary care, containing dimensions, indicators, measures, parameters, and sources of evidence

	Indicator	Measures	Parameters	Source
Organizational Policy Dimension	Sufficiency of Professionals	Perception of the BHU coordination on the sufficiency of the workload of professionals working at the BHU (Physician and nurse)	Satisfactory (10 pts) Partial (5 pts) Unsatisfactory (0 pts)	Unit coordination
		Perception of BHU coordination on UBS opening hours *The schedule is appropriate to the health needs of the population of the territory	Satisfactory (10 pts) Partial (5 pts) Unsatisfactory (0 pts)	
		Percentage of the completeness of the teams working at the BHU in the city	Transformation of the percentage of complete teams in the municipality into scores following the proportion (100%=10 pts)	
		Percentage of coverage of teams in the city	Transformation of the percentage of coverage of the teams in the city into score following the proportion (100%=10 pts)	
	Professional Qualification	Conducting training on the functioning of the municipal network on the entry of professionals	Yes (10 pts) / No (0 pts). Training is offered on the entry regarding the operation of the municipal network	Unit coordination
		Obligation of training on entry of professionals	Yes (10 pts) / No (0 pts) Participation in the training is mandatory on the entry of professionals	
		Qualification actions on early detection of breast cancer	Yes (10 pts) / No (0 pts) Qualification actions on the early detection of breast cancer are understood as: permanent education on the subject; team meetings, forum, and lectures within the health unit	
	Physical Structure of the Health Center	Perception of the BHU coordination on the adequacy of the physical structure of the Health Center to conduct health actions	Adequate (10 pts:); Partially (5 pts); Inadequate (0 pts)	Unit coordination
		Existence of: 1. Waiting room (1 pt) 2. Office with bed (2 pts) 3. Office with bathroom (2 pts) 4. Room for collective activities/ Meeting room (2 pts) 6. Computer with Internet access (1 pt)	Adequate (10 pts): 6 to 8 points Partially adequate (5 pts): 3 to 5 points Inadequate (0 pts): less than 3 points.	
	Regulation of access to specialized services	Existence of a central regulator for specialized services and Therapeutic Diagnostic Support Services (TDSS)	Yes (10 pts) / No (0 pt)	Unit coordination
		Time elapsed between the request for the examination and the return of the woman to the Health Center	Up to 30 days (Good) From 31 to 60 days (Regular) 61 days or more (Poor)	
	Adequacy of the offer of specialized services and Therapeutic Diagnostic Support Services (TDSS)	Waiting time for imaging tests (mammography)	Good (Up to 30 days) (10 pts) Regular (31 days to 60 days) (5 pts) Poor (61 days or more) (0 pts)	City Management
		Waiting time for consultation with mastologist	Good (Up to 30 days) (10 pts) Regular (31 days to 60 days) (5 pts) Poor (61 days or more) (0 pts)	

Table 2. Analysis and Judgment Matrix of early detection actions of breast cancer in primary care, containing dimensions, indicators, measures, parameters, and sources of evidence

	Indicator	Measures	Parameters	Source
Organizational Policy Dimensio		Availability of mammography exam	Satisfactory (10 pts) (Availability of mammography exam in the city) Partial (5 pts) (Availability of mammography exam in the network) Unsatisfactory (0 pts) (No availability of mammography exam in the city and the network)	IBGE/CNES
	Reference and counter-reference	Existence of counter-reference after referral to specialized service	Always (10 pts) Most often (8 pts) Sometimes (5 pts) Rarely (1 pt) Never (0 pt)	Unit coordination
	Availability of Information	Requirement to complete the SISCAN Information System requisition	Yes (10 pts) / No (0 pts)	City Management
		Monitoring the completion of the SISCAN Information System request	Yes (10 pts) / No (0 pts)	
	Monitoring of actions aimed at early detection of breast cancer	Existence of indicators for monitoring actions aimed at the early detection of breast cancer	Yes (10 pts) / No (0 pts)	City Management
		Follow-up of monitoring indicators of actions aimed at early detection of breast cancer	Yes (10 pts) Partial (5 pts) No (0 pts)	
		Conducting planning and organization of actions aimed at early detection of breast cancer based on the evaluation of the selected indicators	Very often (10 pts) Often (7.5 pts) Occasionally (5 pts) Rarely (2.5 pts) Never (0 pts)	
Care Delivery Dimension	Knowledge of the Territory	Percentage of microareas covered by PHC	Good (75%) (10 pts) Regular (50 to 75%) (10 pts) Poor (<50%) (0 pts)	Unit coordination
	Organization of the agenda	Identification and registration of women of the target age who are not undergoing mammographic screening	Yes (10 pts) / No (0 pts)	Unit coordination
		Ensuring follow-up appointments for users diagnosed with breast cancer	Yes (10 pts) Partial (5 pts) No (0 pts)	
	Women's healthcare work process	Conducting active searches for women in the target population	Yes (10 pts) / No (0 pts)	Unit coordination
		Conducting follow-up consultations for women referred to specialized services	Yes (10 pts) Partial (5 pts) No (0 pts)	
		Conducting health education actions to raise awareness of the population on the subject Includes: Waiting rooms, educational lectures in the community, dissemination of the theme in local communications, pink October action.	Yes (10 pts) / No (0 pts)	
		Use of protocol and guidelines aimed at early detection of breast cancer	Always (10 pts) Most often (7.5 pts) Sometimes (5 pts) Rarely (2.5 pts) Never (0 pts)	

Table 2. Analysis and Judgment Matrix of early detection actions of breast cancer in primary care, containing dimensions, indicators, measures, parameters, and sources of evidence

	Indicator	Measures	Parameters	Source
Care Delivery Dimension	Women's healthcare work process	Registration of women who underwent mammography in electronic medical records and/or follow-up forms	Yes (10 pts) / No (0 pts)	Unit Coordinator
		Conducting the checklist in women's health consultations Medical and nursing care checklist: - Anamnesis; - Physical examination of the breasts; - Search for risk factors (hereditary, behavioral/environmental, endocrine) for breast cancer development. - Request for mammography examination for women between 50 and 69 years old every 2 years	Always (10pts) Most often (7.5pts) Sometimes (5pts) Rarely (2.5pts) Never (0 pts)	Unit Coordinator
		Home care for women in palliative care	Yes (10 pts) / No (0 pts)	
	Interdisciplinary work	Participation of different professionals in the organization of educational activities Includes: Waiting rooms, educational lectures in the community, pink October actions, team meetings	Always (10pts) Most often (7.5pts) Sometimes (5pts) Rarely (2.5pts) Never (0 pts)	Unit Coordinator
		Multi-professional team support for users in breast cancer treatment It is understood as multiprofessional support: psychologists, physiotherapists, nutritionist, pharmacist	From 4 professionals (10 pts) From 2 to 3 professionals (5 pts) From 1 professional (1 pts)	
	Early diagnosis of breast cancer	Average time between performing diagnostic mammography and its result	Satisfactory: 0-30 day (10 pts) Partial: 31 to 60 days (5 pts) Unsatisfactory: > 60 or cannot inform (0 pts)	Unit Coordinator
		Percentage of mammographies classified as BI-RADS 4 or 5 of total diagnostic mammographies	Satisfactory: < 5% (10 pts) Unsatisfactory: >5% (0 pts)	SisMama/ Siscan
	Screening	Percentage of the target population that underwent mammography examination at the indicated frequency Calculation: Number of women aged 50 to 69 years who underwent screening mammography in the last two years, in a given place and period x 100/ Number of women aged 50 to 69 years, in the respective place and period	70% satisfactory 50 to 69% regular < 49% unsatisfactory	Siscan e IBGE
		Percentage of mammography screening according to indication for women aged 50 to 69 years Calculation: No. of screening mammographies in women aged 50 to 69 years, residing in a given location and period x 100 / Total No. of screening mammographies in the respective location and period	Satisfactory: 53% or more (10 pts) Partial: 25 to 53% (5 pts) Unsatisfactory: < 25% (0 pts) *In 2013, the value presented for Brazil was 53%	Siscan/ SisMama/ SIA/ SUS
		Average time between screening mammography and its result	Satisfactory: 0-30 days (10 pts) Partial: 31 to 60 days (5 pts) Unsatisfactory: > 60 days (0 pts)	SisMama/ Siscan

Source: Prepared by the authors.

In the political-operational dimension, for the actions to be conducted properly, there must be complete Family Health and/or Primary Care teams, with sufficient hours for health professionals to meet the demand of the territory, following the recommendations of the Ministry of Health[20]. It is noteworthy that, although the hours of operation of the BHU are from Monday to Friday, alternative hours may occur, respecting the minimum workload and according to the populational needs[20]. This prerogative becomes vital as it enables women's access to health services, directly linked to the perception of satisfaction with healthcare[21].

During the validation of the AJM, after the consensus workshop, it was understood that in the indicator 'sufficiency of professionals', the measure 'percentage of coverage of teams in the city' was added because it understood that to operate in its entirety, early detection actions of breast cancer must be available in all BHU[22].

Moreover, health professionals working in PHC should be aware of strategies for breast cancer control and know how to plan and perform them[18]. Professional qualification is related to good clinical practice, knowledge of referral flows in the line of care, and follow-up of protocols, which will contribute to implementing public policies for the early detection of breast cancer in PHC[22].

The BHU must have an appropriate physical structure that allows actions to be taken and enables women to access the early diagnosis and screening of breast cancer. Adequate facilities enable work processes to be organized and favor the reception of women[19,21]. It is expected that, minimally, the physical structure of the BHU has some indispensable elements for the effectiveness of care, including offices with bathrooms (with the guarantee of privacy of the woman), offices with a bed for carrying out exams, rooms for collective activities, waiting room, computers with Internet access[17,21].

PHC occupies a central position in the care of women, especially the target population at risk of developing cancer or even with the confirmed disease or survivors. The actions aim to achieve the principles of equality, comprehensiveness, and organization of the HCN, acting as a communication center, with the responsibility to establish the priorities and the care flow to specialized care[22]. Given this scenario, health regulation operationalizes, monitors, and evaluates requests for consultations, procedures, and examinations according to clinical protocols. It is a tool to promote equity and accessibility in the early detection of breast cancer. Also, it is essential to ensure access to specialized services, such as imaging tests and consultations with specialists in a timely manner for the early diagnosis of breast cancer. It guarantees the integrality of women's health care and provides the available care supply according to the supply and demand according to women's health needs.

The lack of information exchanges creates individualized and specific practices in the care network, as the PHC should receive information from secondary and tertiary levels[15]. The referral and counter-referral service is a mechanism for coordinating the care and organization of networked services so that the fundamental aspects of early detection of breast cancer occur properly. To this end, the organization of the agenda reflects on the guarantee of follow-up consultations of women referred to other points of the HCN to improve adherence and follow-up of treatment. Besides strengthening the bond and relationships between PHC professionals and their health center[17].

Knowledge of the territory allows planning actions according to the population's needs. It also favors the bond between health professionals and the population, impacting health actions' results. Therefore, the proper planning of early detection actions for breast cancer will only be conducted with this knowledge. Besides, planning, evaluating, and monitoring early detection actions for breast cancer is essential. The Cancer Information System (SISCAN) is an important

data source for evaluation and monitoring. SISCAN is integrated with the SUS National User Register (CADWEB), which assists in identifying women by SUS card number. It is also integrated into the National Registry of Health Establishments (CNES), integrating with providers and assisting in organizing the network. Monitoring and evaluation aim to monitor and compare results by women spatially and temporally, in addition to facilitating the management of screening and follow-up exams. An essential tool to support decision-making processes, support planning and decision-making, and guide actions aimed at early detection of breast cancer[23].

The systematization of cancer-related data has relevance since these data can generate important information, enabling subsidies to assist administrative planning and, consequently, improve the level of care[24]. The focus on the integration of systems and availability of information in the HCN are considered determining instruments, which make it possible to communicate between the levels of care to women's health needs.

The action of the Primary Care teams has the role of establishing a bond with the community and population of the territory. The process of identifying situations of risk and vulnerability, conducting an active search for women and educational practices to raise awareness of the population are fundamental to promoting continuous, comprehensive, and organized care. Considering the objective of ensuring adequate care for women in primary care, including early detection of breast cancer, it is necessary to implement protocols and guidelines and define access flows at different points in the care network[25].

Furthermore, it must have support professionals who act interdisciplinarily in the care of women in breast cancer treatment, developing integrated activities for the different knowledge to act for the well-being of patients[17,26]. In this understanding, there was the inclusion, from the discussion held in the consensus workshop, of the indicator 'interdisciplinary performance' and the measures: participation of different professionals in the organization of educational activities and support of a multidisciplinary team for users in breast cancer treatment.

Health professionals working in primary care are also responsible for conducting educational actions for health promotion and prevention. During October, public health services promote educational actions and disseminate the offer of screening tests. The Pink October campaign was another theme discussed at the consensus workshop. Thus, based on the understanding that the action mobilizes society, public and private services, health professionals, and Non-Governmental Organizations (NGOs) in the dissemination of information about breast cancer, the Pink October action was added to the indicator 'work process in women's health care', to the extent 'conducting health education actions to raise awareness of the population on the subject[27,28].

Early detection consists of early diagnosis and screening actions. In this analysis, the indicators 'early diagnosis of breast cancer' and 'screening' are analyzed, thus seeking an early diagnosis of breast cancer in the early stages and measuring adherence to the technical guidelines of the Ministry of Health. Hence, the purpose of this strategy is not to teach a screening method, but rather to qualify the demand of women for health care, valuing self-knowledge and early identification of warning signs for breast cancer in everyday situations[22].

To issue the value judgment of the developed matrix, for each indicator, the dimension will be calculated as the sum of the maximum score obtained, then divided by the maximum expected score and multiplied by 100, considering the following cutoff points: critical: < 25%; incipient: between 26 to 50%; partially adequate: between 51 to 75%; adequate: > 75%. Such percentages proposed for each component of the AJM allow for assessing the degree of adequacy of early detection actions of breast cancer in PHC.

The evaluability study assists in understanding the functioning of the actions and indicates the adjustments to be made. However, this study had limitations, such as the fact that it occurred during a pandemic period by SARS-CoV-2, which made it difficult to contact and conduct interviews and involvement with the different process actors. Interviews are fundamental parts of the evaluation, as they promote a debate and a broad view of the entire progress of the program.

A small number of specialists may fail to contemplate other realities brought by the experiences of the health service. On the other hand, the literature review sought to use national and international documents from different regions of the country, contrasting different realities.

Also, the complexity in constructing an evaluation model of early detection actions of breast cancer is observed by the heterogeneity of scientific productions on the subject. Organizing the information and indicators of early detection actions in PHC is challenging, as it covers several actors, from support to care, in the three levels of care. Most evaluative studies focus on treating breast cancer in HCN and its implications. Despite the advances, the national guidelines are not followed as recommended, besides presenting a fragmentation of care, with a discrepancy in regional disparities in the offer of mammography examination.

Final remarks

The development of the evaluability study shows that the actions of early detection of breast cancer in PHC are likely to be evaluated. The study allowed a deepening of the theme and the relationship between its components, providing the understanding of factors that can interfere with and enhance the performance of early detection actions of breast cancer in PHC. Obtaining the value judgment of the proposed dimensions, considering the contexts that are inserted, can provide support for the decision-making of managers, especially state municipalities, as well as health professionals working in PHC, identifying the elements that should be prioritized to achieve the expected results, including adequate attention to the needs of women and the control of breast cancer through early detection of the disease.

Collaborators

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