ORIGINAL ARTICLE
https://doi.org/10.29289/2594539420210004

Knowledge of basic attention professionals about prevention and early detection of breast cancer in the state of Goiás

Rosemar Macedo Sousa Rahal[1], Danielle Cristina Netto Rodrigues[1], Rosangela Silveira Corrêa[1], Leonardo Ribeiro Soares[1], Sarah Hasimyan Ferreira[1], Pedro Henrique de Ávila Perillo[2], Nilza Alves Marques Almeida[3]

ABSTRACT

The role of Basic Health Care (BHC) professionals is essential in the primary and secondary prevention of breast cancer. The aim of this study was to characterize BHC professionals in the Health Regions of a federative unit and to assess their knowledge about breast cancer. This was a prospective study carried out with BHC professionals from the state of Goiás. Phase 1 – Preparation of material and training of the team. Phase 2 – Agreement of actions between executing team and coordination of health regions. Phase 3 – Presentation of project at the collegiate meeting. Phase 4 – Qualification of BHC professionals with different learning methods and application of questionnaires, evaluating the contribution of the action. A total of 1,133 professionals were included; mean age was 36.3 years, and they were predominantly women (87.6%), working as community health agents (59.2%) and at public service (76.3%). Only 53.8% of professionals identified the female sex as a risk factor for breast cancer, while 90% identified family history as an important factor for the development of the disease. Important changes in physical examination that can occur in patients with the disease, such as skin retraction, skin bulging and nipple injury, were mentioned as a risk factor only by 35.3%, 31.3% and 39.7%, respectively. BHC professionals who participated in the project had less than ten years of professional experience and significant restrictions of knowledge about primary and secondary prevention of breast cancer. They still experience difficulties in accessing mammography and specialized care.

KEYWORDS: breast neoplasms; primary prevention; community health planning; health education; health promotion.

INTRODUCTION

In Brazil, standardized breast cancer mortality rates between 1980 and 2016 ranged from 9.2 to 12.4 deaths per 100,000 women. This represents an increase of 33.6% in the period analyzed and reflects an upward trend in all regions of the country[1]. It should be noted that mortality rates are strongly related to access to health services and the quality of care offered to women with breast cancer[2,3]. Thus, one of the main strategies to improve morbidity and mortality is diagnosis in early stages of the disease[4].

Reducing mortality from breast cancer is one of the priorities of the National Policy for Comprehensive Women's Health Care, provided for in the National Plan for Primary Care[5]. Primary Health Care (PHC) is characterized by health actions, at individual and collective levels, covering health promotion and protection, disease prevention, diagnosis, treatment, rehabilitation, and health maintenance.

One of the foundations of PHC is the valuation of health professionals through encouragement and constant monitoring of their education and training as an essential strategy for the effectiveness of health education actions[5]. Prevention and early detection of breast cancer have been identified as essential and in need of intensification[6,7]. Thus, a scientific basis for health professionals involved in this process are necessary so that they can also assume an educational role and offer the population information that is useful for the prevention of breast cancer[8].

Strategies for health education actions must suit the profile of PHC professionals in each region. However, there is little information about the characterization of PHC staff in Federation Units. Another important matter is the lack of information about the experience of professionals in carrying out educational activities[9].

The aim of this study was to characterize the PHC professionals in the Health Regions of a Federation Unit and to assess

[1]Advanced Breast Diagnosis Center, Hospital das Clínicas, Universidade Federal de Goiás – Goiânia (GO), Brazil.
[2]Medical School, Universidade Federal de Goiás – Goiânia (GO), Brazil.
[3]Nursing School, Universidade Federal de Goiás – Goiânia (GO), Brazil.
***Corresponding author:** rosems@terra.com.br
Conflict of interests: nothing to declare.
Received on: 05/25/2021. **Accepted on:** 11/10/2021. **Corrected on:** 13/04/2026.
This document has an erratum: https://doi.org/10.29289/2594539420210004-ER

their knowledge about breast cancer and the difficulties they face in daily practice.

METHODS

This was a prospective study whose target population was PHC health professionals of the state of Goiás. For this study, professionals involved in the early detection of breast cancer were considered to be the community health agents (CHA), the nurses and nursing technicians, physicians and mammography technicians.

The State of Goiás and Regional Health Boards

The state of Goiás is divided into 18 regional health boards according to the Master Plan for Regionalization. These boards intermediate the administration between the State Health Department (SES-GO) and the municipalities.

Methodology and Data Collection

This study was divided into four phases: planning of the executing team at SES-GO, creating strategies to raise awareness in the health regions; meetings with coordinators of health regions to agree on the actions to be developed by the project; presentation of the project for the health region at the collegiate meeting; conduction of a training course and application of semi-structured questionnaires with open and closed questions as a strategy for data collection.

Phase 1

The executing team planned the training activities, which involved the preparation of teaching material and data collection instruments, training of the working group to standardize pedagogical intervention strategies, awareness of the SES-GO coordination board on the importance of the participation of health professionals in the training course, preparation of a timeline of activities according to the number of professionals registered in each health region, and development of training activities.

Phase 2

Meetings were held with the coordinators of the regional health boards to agree on the actions to be carried out by the project, with representatives from the Mastology Program of Clinical Hospital of Universidade Federal de Goiás (HC/UFG), from the project "Liga da Mama", from the Faculty of Medicine, Nursing and Psychology at UFG, from the Association of Breast Cancer Patients, from the Regional Center for Nuclear Sciences of the Midwest, from the Superintendence of Sanitary and Environmental Surveillance of the State of Goiás, and from the Department of Sanitary Surveillance of Goiânia.

Phase 3

Presentation of the project at the collegiate meeting that takes place monthly under the organization of the regional health boards, where a representative of each city that makes up the board was present and all health actions to be carried out were defined.

Phase 4

On a date defined by the coordination of the regional health board and the project, as many health professionals as possible were transferred to the regional headquarters. Then, professionals were trained on a pedagogical approach with focus on health education. The pedagogical proposal adopted for this project was the methodology of problematization. This teaching method is based on the recipient's prior knowledge, which could be proven or reformulated during the theorization of information, in a way to provide them with instruments to intervene in the reality from which the problem was extracted[10].

The proposal of pedagogical intervention involves:

- Presentation of the team and proposal of the training course project;
- Integration technique with musical presentation;
- Application of a characterization questionnaire to health professionals;
- Discussion in small groups using guiding questions of a questionnaire addressing knowledge about risk factors, signs and symptoms, primary and secondary breast cancer prevention actions;
- Theoretical approach on risk factors, signs and symptoms and actions for primary and secondary breast cancer prevention, relating it to the information previously provided by the groups;
- Discussion in small groups to identify the difficulties and eases of health professionals for breast cancer prevention and early detection;
- Presentation of a summary by each group through a spokesperson;
- Workshops on self-examination with handling of the "Mammiga" Didactic Model and clinical examination of breasts;
- Assessment of the contribution of the training course to the practice of health professionals by means of a questionnaire.

Inclusion and exclusion criteria

All health professionals linked to the respective regional health boards of the state of Goiás were invited to participate in the study. Those who completed the training course and filled in the questionnaires in full were included. Professionals who did not accept to participate in the study were excluded.

Statistical analysis

The data collected were tabulated by double typing and analyzed using the Microsoft Excel program (Microsoft, Redmond, Washington, United States), version 2007. An exploratory analysis was performed using descriptive statistics and measures such as means, and absolute frequencies and percentages.

Ethical matters

This study is part of a line of research developed by the Brazilian Network for Research in Mastology, approved by the Research Ethics Committee of HC/UFG, under protocol number 037/2011. All good clinical practice recommendations by the National Health Council resolution nº 466/2012 and the Helsinki Convention were followed. All individuals invited and who agreed to participate in this study signed an Informed Consent Form.

RESULTS

The study included 1,133 PHC professionals linked to nine regional health boards in the state of Goiás. The mean age of professionals was 36.3 (± 9.8) years, ranging from 17 to 78 years. Women were predominant (87.6%), as well as CHA (59.2%), public-sector professionals (76.3%) and professionals with less than five years of training (37.0%). Other demographic and professional characteristics of the sample are described in Table 1.

Regarding risk factors for breast cancer, most professionals identified correctly the relevance of the female sex (53.8%), age (78.1%) and family history (90.0%). On the other hand, breast tenderness and breast cysts were considered risk factors for 47.7% and 58.0% of the professionals interviewed, respectively (Table 2).

Among changes in physical examination that can occur in patients with breast cancer, the presence of a nodule was reported by almost the entire sample (95.4%). Skin retraction, skin bulging and nipple injury was reported by 35.3%, 31.3% and 39.7%, respectively (Table 2).

Table 3 shows the difficulties and challenges experienced by PHC users and professionals in relation to the prevention and diagnosis of breast cancer (the percentage of access to consultations is high, in contrast to the percentage of access to the breast cancer screening exam, which is low; knowledge of the professional; body exposure; participation in educational groups).

DISCUSSION

This study is the result of a pioneering initiative in the state of Goiás encompassing individual and collective awareness, pedagogical intervention and professional training on various matters related to breast cancer. It identified demographic, professional, educational and assistance characteristics of PHC professionals in the state.

The characterization of professionals linked to PHC is fundamental for understanding some variables related to breast cancer screening and early diagnosis. The predominance of CHA in this study corresponds to the recommendations for the family health strategy, but the number of physicians who participated in the project was proportionally small compared to other professionals. This reflects the difficulty in training physicians and the low adherence to health education initiatives. This may be

Table 1. Characterization of health professionals included in the study (n = 1,133). Goiânia, Clinical Hospital, Universidade Federal de Goiás, 2020.

Questionnaire 1	n	%
Regional board		
Estrada de Ferro (Catalão)	69	6.1
West I (Iporá)	183	16.2
West II (São Luís de Montes Belos)	152	13.4
Serra da Mesa (Uruaçu)	138	12.2
North (Porangatu)	87	7.7
North surroundings (Formosa)	131	11.6
Northeast II (Posse)	90	7.9
Southwest I (Rio Verde)	161	14.2
Southwest II (Jataí)	122	10.8
Dados Pessoais		
Sex		
Female	992	87.6
Male	137	12.1
N/A	4	0.4
Ocupation		
Physician	15	1.3
Nurse	230	20.3
Community health agent	671	59.2
Other	210	18.5
N/A	7	0.6
Educational level		
Elementary School	17	1.5
Incomplete high school	46	4.1
Complete high school	636	56.1
Complete higher education	422	37.2
N/A	12	1.1
Postgraduate studies		
Yes	212	18.7
No	860	75.9
N/A	61	5.4
Situation		
Employed	1,067	94.2
Unemployed	34	3.0
Independent worker	8	0.7
Volunteer	5	0.4
N/A	19	1.7
Marital status		
Single	317	28.0
Married	580	51.2
Stable union	135	11.9
Separated	25	2.2
Divorced	63	5.6
Widow(er)	9	0.8
N/A	4	0.4

Continue...

Table 1. Continuation.

Questionnaire 1	n	%
Monthly income (in minimum wages)		
1 minimum wage	282	24.9
2 minimum wages	327	28.9
3 or more minimum wages	506	44.7
N/A	18	1.6
Religion		
Catholic	715	63.1
Protestant	326	28.8
Spiritist	50	4.4
Other	27	2.4
N/A	15	1.3
Professional data		
Tme since graduation		
< 5 years	419	37.0
5–10 years	335	29.6
> 10 years	307	27.1
N/A	72	6.4
Years of professional background		
< 5 years	399	35.2
5–10 years	355	31.3
> 10 years	321	28.3
N/A	58	5.1
Relationship with the institution		
Approved in public tender	864	76.3
Hired	222	19.6
Volunteer	33	2.9
N/A	14	1.2
Works somewhere else		
Yes	130	11.5
No	966	85.3
N/A	37	3.3

related to several factors such as inadequate remuneration, multiple working hours, quality of training offered and commonly used methodology[11]. There was also a predominance of professionals without complete higher education, which may have contributed to the unfavorable performance when it comes to theoretical knowledge about breast cancer.

In the last 15 years, the national regulations that define CHA's attributions started to prioritize operational activities, such as registering the local population to the detriment of educational, social and health promotion activities[5,12,13]. Many of these professionals experience limited access to specific training[14]. Thus, the work routine in primary health care in Brazil does not encourage

Table 2. Knowledge of health professionals about risk factors, prevention and diagnosis of breast cancer (n = 1133). Goiânia, Clinical Hospital, Universidade Federal de Goiás, 2020.

Questionnaire 2	n	%
1- What are the risk factors for developing breast cancer?		
Being a woman		
Yes	609	53.8
No	524	46.2
Being over 40 years old		
Yes	885	78.1
No	248	21.9
Woman who never got pregnant		
Yes	460	40.6
No	673	59.4
Cases of breast cancer in 1st degree relatives		
Yes	1,020	90.0
No	113	10.0
Alcohol use		
Yes	453	40.0
No	680	60.0
Menarche before age 12 and last menstruation after age 55		
Yes	220	19.4
No	913	80.6
Breast pain		
Yes	541	47.7
No	592	52.3
Breast cyst		
Yes	657	58.0
No	476	42.0
Obesity		
Yes	333	29.4
No	800	70.6
First child after 34 years old		
Yes	251	22.2
No	882	77.8
Smoking		
Yes	747	65.9
No	386	34.1
2- What are the complaints and/or changes that may suggest breast cancer?		
Spontaneous outflow of bloody nipple secretion		
Yes	791	69.8
No	342	30.2
Nodule		
Yes	1,081	95.4
No	52	4.6

Continue...

Table 2. Continuation.

Questionnaire 2	n	%
Skin retraction		
Yes	400	35.3
No	733	64.7
Bulging of the skin		
Yes	355	31.3
No	778	68.7
Nipple injury		
Yes	450	39.7
No	683	60.3
3- What breast cancer prevention measures do you consider most important?		
Monthly self-examination, annual clinical examination and annual breast resonance		
Yes	108	9.5
No	1,025	90.5
Monthly self-examination, annual clinical examination and annual mammography		
Yes	1,008	89.0
No	125	11.0
Monthly self-examination, annual clinical examination and annual ultrasound		
Yes	196	17.3
No	937	82.7
4- What strategies do you use to guide the users of your Health Unit?		
Individual consultation		
Yes	637	56.2
No	496	43.8
Educational group meetings		
Yes	586	51.7
No	547	48.3
Home care		
Yes	735	64.9
No	398	35.1
None		
Yes	8	0.7
No	1,125	99.3
Other		
Yes	82	7.2
No	1,051	92.8

or favor the continuing education of professionals, being limited to specific courses and training initiatives. These strategies contrast with the results of a study conducted in Petrópolis (RJ), where an initiative to train health professionals resulted in the improvement of several public health indicators[15].

Strategies like the one developed in Rio de Janeiro show the relevance of training PHC professionals for more effective actions. In this study, the verification of inappropriate concepts related to breast cancer risk factors, prevention and diagnosis among health professionals possibly translates into inadequate guidance for the population. However, only 33% of health professionals recognize that their knowledge about the subject needs improvement.

The identification of breast cancer etiological factors is important for the primary prevention of the disease[16]. In our study, the assessment showed satisfactory knowledge by health professional regarding some risk factors, such as age and family history[16]. On the other hand, breast tenderness and breast cysts were considered risk factors by about half of the professionals interviewed, which is an inadequate concept and can cause concern in the population. Furthermore, they can lead to unnecessary referrals and saturation of secondary and tertiary services, compromising resolvability[17].

Considering the modifiable risk factors, the number of professionals who do not associate obesity and alcohol consumption with increased risk for breast cancer stands out. Studies conducted in the city of Goiânia (GO), in agreement with the literature, identified that alcohol consumption[18] and the amount of abdominal fat increase the risk of breast cancer[19]. Therefore, it should be emphasized that the identification of these risk factors contributes to specific strategies for breast cancer primary prevention[16,19].

The diagnostic workup for breast cancer is multimodal and must be adapted to the different clinical presentations of the disease. In early stages, it is commonly asymptomatic and presentes no changes upon physical examination. Therefore, signs such as skin retraction, skin bulging and nipple injury are indicative of locally advanced disease and must be promptly recognized and properly managed[20]. In our study, only 30% of professionals identified these changes as suspected breast cancer, which could perpetuate a late diagnosis of the disease. Currently, in Brazil, these and other alterations in the self-examination and/or clinical examination of the breasts are responsible for about 50% of breast cancer diagnoses[21], reinforcing the importance of primary health professionals in the early diagnosis of the disease.

Barriers to accessing infrastructure are one of the daily adversities for secondary prevention. According to our findings, access to mammography was the main difficulty faced in the consolidation of preventive practices, both by users (71.5%) and health professionals (63.4%), a fact that goes against the number and the adequate distribution of mammography devices in the state, although there is low mammographic production[22-24]. In addition, the distribution of breast cancer professionals in the state is also disproportionate in relation to the population distribution, with 43 breast cancer specialists registered in Goiânia and only ten professionals registered in the countryside of the state[25,26], which explains the difficulty identified in accessing specialized services.

Table 3. Difficulties and challenges experienced by users and Primary-Care professionals in relation to the prevention and diagnosis of breast cancer (n = 1,099). Goiânia, Clinical Hospital, Universidade Federal de Goiás, 2020.

Questionnaire 3	n	%
Regional boards		
Estrada de Ferro (Catalão)	65	5.9
West I (Iporá)	181	16.5
West II (São Luís de Montes Belos)	152	13.8
Serra da Mesa (Uruaçu)	134	12.2
North (Porangatu)	79	7.2
North surroundings (Formosa)	128	11.6
Northeast II (Posse)	89	8.1
Southwest I (Rio Verde)	154	14.0
Southwest II (Jataí)	117	10.6
1 - What difficulties do you identify in carrying out breast cancer prevention actions in your municipality?		
Knowledge about the topic		
Yes	363	33.0
No	736	67.0
Support from local institution		
Yes	371	33.8
No	728	66.2
Lack of educational material		
Yes	598	54.4
No	501	45.6
Referral for a mammography service		
Yes	699	63.6
No	400	36.4
Referral for a specialized service		
Yes	611	55.6
No	488	44.4
Other		
Yes	92	8.4
No	1,007	91.6
2 - What facilities do you identify in breast cancer prevention actions?		
Knowledge about the topic		
Yes	611	55.6
No	488	44.4
Support from local institution		
Yes	418	38.0
No	681	62.0
Lack of educational material		
Yes	395	35.9
No	704	64.1
Referral for a mammography service		
Yes	400	36.4
No	699	63.6
Referral for a specialized service		
Yes	238	21.7
No	861	78.3
Other		
Yes	86	7.8
No	1,013	92.2
3 - What difficulties do the users of your service face for breast cancer prevention?		
Access to the women's annual consultation at the health unit		
Yes	185	16.8
No	914	83.2
Access to mammography		
Yes	786	71.5
No	313	28.5
Access to medical consultation in a specialized service		
Yes	705	64.1
No	394	35.9
Myths and taboos about breast cancer		
Yes	376	34.2
No	723	65.8
Difficulty in exposing the body for breast examination		
Yes	357	32.5
No	742	67.5
Other		
Yes	54	4.9
No	1.045	95.1
4 - What makes breast cancer prevention easier for users of your unit?		
Access to the women's annual consultation at the health unit		
Yes	743	67.6
No	356	32.4
Home care by the family health team		
Yes	646	58.8
No	453	41.2
Participation in educational group meeting		
Yes	508	46.2
No	591	53.8
Other		
Yes	72	6.6
No	1.027	93.4

Continue...

Another point to be highlighted is the perception of health professionals about the difficulties experienced by users in breast cancer prevention. In addition to factors related to the flow of assistance, around 30% of users are still susceptible to myths and taboos about the disease, as well as personal restrictions to expose their bodies to breast examinations. These data reinforce the need for educational actions aimed at the lay population, whose misinformation can restrict breast cancer screening and early diagnosis. In recent years, in response to this social demand, the Brazilian Society of Mastology has taken on a leading role creating various booklets and educational campaigns in various media[27].

The limitations found in this study are in line with what is proposed by the Brazilian model of basic health care, which was developed to articulate health promotion, as well as the reference to more complex services in indicated cases. However, even with 40 thousand teams and coverage of approximately 60% of the population, studies still point to problems in the quality of health care practiced in Brazil[28]. The training of health professionals appears, then, as a path to be followed to ensure better assistance to the population served by the Unified Health System[15]. Nevertheless, basic care also represents a privileged space for the development of permanent health education.

Together, the data presented in this study reinforce the need for investments in the structure of basic health care and in the team's continuing education, providing comprehensive care to the individual, health promotion and early diagnosis of breast changes. As a result, these measures could facilitate the diagnostic process of breast cancer and possibly improve the oncological outcomes of the disease.

CONCLUSION

The PHC professionals of the state of Goiás who participated in this project had, for the most part, completed high school and less than ten years of professional experience. They showed to have limitations regarding knowledge about primary and secondary prevention of breast cancer, as well as experience difficulties in care activities mainly related to access to mammography and to specialized services.

AUTHORS' CONTRIBUTION

R.M.S.R.: Conceptualization, Funding acquisition, Investigation, Methodology, Investigation, Project administration, Supervision, Validation, Visualization, Writing — revision & editing. D.C.N.R.: Conceptualization, Data curation, Formal analysis, Investigation, Visualization, Writing — original draft, Writing — revision & editing. R.S.C.: Data curation, Formal analysis, Investigation, Writing — revision & editing. L.R.S.: Investigation, Validation, Visualization, Writing — original draft, Writing — revision & editing. S.H.F.: Data curation, Formal analysis, Investigation, Writing — revision & editing. P.H.A.P.: Methodology, Validation, Writing — revision & editing. N.A.M.A.: Conceptualization, Data curation, Visualization, Writing — revision & editing.

REFERENCES

1. Brasil. Ministério da Saúde. A situação do câncer de mama no Brasil: síntese de dados dos sistemas de informação. Rio de Janeiro: Ministério da Saúde; 2019.
2. Makdissi FB, Leite FPM, Peres SV, Silva DRM, Oliveira MM de, Lopez RVM, et al. Breast cancer survival in a brazilian cancer center: a cohort study of 5,095 patients. Mastology. 2019;29(1):37-46. https://doi.org/10.29289/2594539420190000437
3. Gonzaga CMR, Freitas-Junior R, Curado MP, Sousa ALL, Souza-Neto JA, Souza MR. Temporal trends in female breast cancer mortality in Brazil and correlations with social inequalities: Ecological time-series study. BMC Public Health. 2015;15:96. https://doi.org/10.1186/s12889-015-1445-7
4. Liedke PER, Finkelstein DM, Szymonifka J, Barrios CH, Chavarri-Guerra Y, Bines J, et al. Outcomes of breast cancer in Brazil related to health care coverage: A retrospective cohort study. Cancer Epidemiol Biomarkers Prev. 2014;23(1):126-33. https://doi.org/10.1158/1055-9965.epi-13-0693
5. Brasil. Ministério da Saúde. Portaria nº 648, de 28 de março de 2006. Brasil: Ministério da Saúde; 2006. 26 p.
6. Passos CM, Sales JB, Maia EG, Caldeira TCM, Rodrigues RD, Figueiredo N, et al. Trends in access to female cancer screening in Brazil, 2007-16. J Public Health (Oxf). 2021;43(3):632-8. https://doi.org/10.1093/pubmed/fdaa028
7. Yurt S, Saglam Aksut R, Kadioglu H. The effect of peer education on health beliefs about breast cancer screening. Int Nurs Rev. 2019;66(4):498-505. https://doi.org/10.1111/inr.12517
8. Bukowski A, Gioia S, Chavarri-Guerra Y, Soto-Perez-de-Celis E, St. Louis J, Paulino E, et al. Patient navigation to improve access to breast cancer care in Brazil. J Glob Oncol. 2017;3(5):433-7. https://dx.doi.org/10.1200%2FJGO.2016.006726
9. Pinto A, Jorge MSB, Marinho MNASB, Vidal ECF, Aquino PS, Vidal ECF. Vivências na Estratégia Saúde da Família: demandas e vulnerabilidades no território. Rev Bras Enferm. 2017;70(5):970-7. https://doi.org/10.1590/0034-7167-2015-0033
10. Berbel N. Metodologia da problematização: uma alternativa metodológica apropriada para o ensino superior. Semin Ciências Sociais e Humanas. 1995;16(2):9-19. http://dx.doi.org/10.5433/1679-0383.1995v16n3p09

11. D'Ávila LS, Assis LN, Melo MB, Brant LC. Adesão ao programa de educação permanente para médicos de família de um estado da Região Sudeste do Brasil. Ciênc Saúde Coletiva. 2014;19(2):401-16. https://doi.org/10.1590/1413-81232014192.01162013
12. Brasil. Ministério da Saúde. Política Nacional de Atenção Básica. Brasil: Secretaria de Atenção à Saúde; 2012. 110 p. v. 1.
13. Morosini MVGC, Fonseca AF, Lima LD. Política Nacional de Atenção Básica 2017: retrocessos e riscos para o Sistema Único de Saúde. Saúde Debate. 2018;42(116):11-24. https://doi.org/10.1590/0103-1104201811601
14. Morosini MV, Fonseca AF. Os agentes comunitários na Atenção Primária à Saúde no Brasil: inventário de conquistas e desafios. Saúde Debate. 2018;42(Spe. 1):261-74. https://doi.org/10.1590/0103-11042018S117
15. Leite CVP, Porsani M de M, Plácido MVF, Nunes DR, Ferreira CLC. Prevention of breast cancer through primary health care training. Mastology. 2019;29(3):125-30. https://doi.org/10.29289/2594539420190000445
16. Kolak A, Kamińska M, Sygit K, Budny A, Surdyka D, Kukiełka-Budny B, et al. Primary and secondary prevention of breast cancer. Ann Agric Environ Med. 2017;24(4):549-53. https://doi.org/10.26444/aaem/75943
17. Gebrim LH, Madeira M, Shida JY, Mattar A. Importância do atendimento integrado em mastologia para redução da mortalidade por câncer de mama. Mastology. 2011;20(4):199-204.
18. Godinho-Mota JCM, Gonçalves LV, Mota JF, Soares LR, Schincaglia RM, Martins KA, et al. Sedentary behavior and alcohol consumption increase breast cancer risk regardless of menopausal status: A case-control study. Nutrients. 2019;11(8):1871. https://dx.doi.org/10.3390%2Fnu11081871
19. Godinho-Mota JCM, Gonçalves LV, Soares LR, Mota JF, Martins KA, Freitas-Junior I, et al. Abdominal adiposity and physical inactivity are positively associated with breast cancer: a case-control study. Biomed Res Int. 2018;2018:4783710. https://doi.org/10.1155/2018/4783710
20. Young T. Regular self-examination or clinical examination for early detection of breast cancer. Int J Epidemiol. 2008;37(6):1217-9. https://doi.org/10.1093/ije/dyn218
21. Basegio DL, Corrêa MPA, Kuiava VA, Quadros C, Mattos MPB, Pavan NR, et al. The importance of breast self-examination as a diagnostic method of breast cancer. Mastology. 2019;29(1):14-9. https://doi.org/10.29289/2594539420190000424
22. Corrêa R da S, Freitas-Júnior R, Peixoto JE, Rodrigues DCN, Lemos MEF, Marins LAP, et al. Estimativas da cobertura mamográfica no Estado de Goiás, Brasil. Cad Saúde Pública. 2011;27(9):1757-67. https://doi.org/10.1590/S0102-311X2011000900009
23. Rodrigues DCN, Freitas-Junior R, Rahal RMS, da Silveira Corrêa R, Gouveia PA, Peixoto JE, et al. Temporal changes in breast cancer screening coverage provided under the Brazilian National Health Service between 2008 and 2017. BMC Public Health. 2019;19:959. https://doi.org/10.1186/s12889-019-7278-z
24. Rodrigues DCN, Freitas-Junior R, Rahal RMS, Corrêa R da S, Peixoto JE, Ribeiro NV, et al. Difficult access and poor productivity: Mammography screening in Brazil. Asian Pacific J Cancer Prev. 2019;20(6):1857-64. https://doi.org/10.31557/apjcp.2019.20.6.1857
25. Sociedade Brasileira de Mastologia. Regional Goiás. Médicos [Internet]. Sociedade Brasileira de Mastologia [cited on May 22, 2020]. Available at: https://sbmgoias.com.br/site/Home/medicos
26. Brasil. Instituto Nacional de Câncer José Alencar Gomes da Silva. Estimativa 2020: incidência de câncer no Brasil [Internet]. Brasil: Ministério da Saúde; 2019 [cited on May 22, 2020]. Available at: https://www.inca.gov.br/sites/ufu.sti.inca.local/files//media/document//estimativa-2020-incidencia-de-cancer-no-brasil.pdf
27. Sociedade Brasileira de Mastologia. Campanhas [Internet]. Sociedade Brasileira de Mastologia [cited on May 22, 2020]. Available at: https://www.sbmastologia.com.br/campanhas/
28. Facchini LA, Tomasi E, Dilélio AS. Qualidade da Atenção Primária à Saúde no Brasil: avanços, desafios e perspectivas. Saúde Debate. 2018;42(Spe. 1):208-23. https://doi.org/10.1590/0103-11042018S114

This is an open access article distributed under the terms of the Creative Commons license.