



ISSN: 2230-9926

Available online at <http://www.journalijdr.com>

IJDR

International Journal of Development Research

Vol. 12, Issue, 03, pp. 54656-54661, March, 2022

<https://doi.org/10.37118/ijdr.24204.03.2022>



RESEARCH ARTICLE

OPEN ACCESS

AWARENESS OF WOMEN ABOUT ASPECTS OF EARLY DETECTION OF BREAST CANCER

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ARTICLE INFO

Article History:

Received 20th January, 2022

Received in revised form

29th January, 2022

Accepted 04th February, 2022

Published online 28th March, 2022

Key Words:

Breast neoplasms;

Awareness;

Early Detection of Cancer;

Knowledge.

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ABSTRACT

Study with the objective of analyzing the knowledge available in the scientific literature on women's awareness about early detection of breast cancer. This is an integrative literature review. Data collection was performed at the Virtual Health Library and PubMed Central. The association of the Boolean operator "AND" with the following controlled descriptors extracted from MeSH and Decs was used: "Breast neoplasms", "Awareness" and "Early Detection of Cancer". Scientific articles in Portuguese and English published between 2019 and 2021 were included. Publications were exported to EndNote Basic, duplicate references were removed, each publication was evaluated and those considered appropriate were selected, resulting in a final sample of 30 articles. There was a predominance of publications from 2019, in English, of studies carried out in Nigeria and Ethiopia and of the cross-sectional type (83.4%), therefore, level of evidence IV. Among the strategies, self-palpation was the most researched and practiced by the women investigated. Most of the studies (19) found that less than 50% of the participants were aware of strategic actions. Factors associated with awareness were income, education level, marital status, age, ethnicity, location (urban or rural), family history of breast cancer, breastfeeding experience, self-efficacy, motivation, and perceived barriers.

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Citation: Lara Caline Santos Lira, Inacia Sátiro Xavier de França, Arthur Ferreira Cerqueira Amorim, Tiago Almeida de Oliveira and Francisco Stélio de Sousa. "Awareness of women about aspects of early detection of breast cancer", *International Journal of Development Research*, 12, (03), 54656-54661.

INTRODUCTION

Among the various diseases that govern the problem of public health, breast cancer is a very frequent pathology among women. According to Sousa *et al.* (2019), breast cancer represents one of the most common causes of female death. Therefore, a process of continuing education is necessary, aiming at the self-detection of signs, symptoms and causes arising and significant that result in the evolutionary framework of this disease. According to Texeira (2021), although there is an expressive epidemiological record of the occurrence of breast cancer in recent years, this cancer is, however, closely linked to low Human Development Index (HDI), since the mortality rate seen in the high-income population has been undergoing regression due to early detection and more accessible care and assistance among women with a stable purchasing power. According to Moreira *et al.*, (2021), the high rates of detection and incidence of breast cancer are related to the increase in life expectancy, linked to the process of urbanization and industrialization described today, which results in improved of prognosis and

diagnosis through screening programs, early detection and daily guidance of professionals who must be able to manage the process of patient identification in the aforementioned pathological condition.

A key piece to timely identify and, consequently, have a better outcome and survival after the diagnosis of breast cancer is early detection (Migowski *et al.*, 2018). According to INCA (2021), early detection includes early diagnosis based on approaching people who present suggestive and initial signs and/or symptoms, and screening focuses on the adoption of strategies in people without signs and suggestive symptoms of breast cancer. The inefficiency of knowledge related to breast cancer is a significant point for the non-participation of women in early detection strategies, contributing to the increase in distances regarding preventive practices, delays in treatment and, consequently, with high rates of morbidity and mortality. Thus, it is necessary to carry out research on the knowledge of breast cancer, the practices carried out (or not) for early detection and the factors that are associated, which thus contribute to the understanding of the problem and redefinition of strategies used in the different realities (Adibe; Igboeli; Aluh, 2018; Liu *et al.*, 2018).

Therefore, in view of the above, the present research has the following guiding question: "What has the scientific literature published about women's awareness about breast cancer with a focus on early detection strategies?" The objective is to analyze the knowledge available in the scientific literature on the awareness of women about the early detection of breast cancer.

METHODS

This is an integrative review, according to the stages described by Souza, Silva and Carvalho (2010): elaboration of the guiding question; search or sampling in the literature; data collection; critical analysis of included studies; discussion of results and presentation of the integrative review. For the development of the second stage, search and selection criteria were established. The search took place online in the Pubmed and Biblioteca Virtual em Saúde (BVS) databases, which included the Medical Literature Analysis and Retrieval System Online (Medline) database. Studies on women's awareness of breast cancer were added, and studies that did not include reflections expected based on the research question and whose research participants were health professionals (even women) and/or academics from courses of the health area were rejected. The search was carried out in November and December 2021, based on a previous consultation with the Medical Subject Headings (MESH) and Health Science Descriptors (DECS) in order to define the appropriate descriptors. Once established, the following descriptors were used in each database: "Breast neoplasms", "Awareness" and "Early Detection of Cancer" in English and Portuguese, and the link between them was established using the Boolean operator "AND". The search strategy for each base is shown in Box 1. The following filters were added: 1) publications in Portuguese and English; 2) Only scientific articles; and 3) works published between 2019 and 2021. After the initial search, the results were exported to the EndNote Basic reference manager, online version, to remove references and select those in which they were deemed appropriate according to the previously established criteria. We then proceeded to read them in full for the final selection. Then, the articles included in the final sample were analyzed using a semi-structured instrument to obtain information considered relevant about the studies, such as: title; authors; year, country of publication; methodological aspects and evidenced main results, data that were grouped in a descriptive Box. Furthermore, each article was classified into levels of evidence according to the following options: level I - meta-analyses, controlled and randomized trials; level II - experimental studies; level III - quasi-experimental studies; level IV - descriptive, non-experimental or qualitative studies; level V - experience and case reports; and level VI - expert opinion and consensus.

RESULTS

The present integrative review analyzed 30 primary studies that assessed women's awareness about aspects of early detection of breast cancer. Of the 973 studies captured in the initial search of the two virtual libraries, after applying the filters, excluding duplicate searches and studies that did not meet the proposed guiding question, the final sample consisted of 30 articles published between 2019 and 2021, in English and in international journals. Figure 1 demonstrates the process of searching and selecting studies through the flowchart. The publications were predominantly from the year 2019 (56.7%), followed by the year 2020 (30%) and finally, the year 2021 with 4 publications (13.3%). All studies were published in the English language. As for the country of origin, Nigeria and Ethiopia predominated with four (13.3%) publications each, while India, Iran, the United Arab Emirates had two (6.6%) publications each, while Saudi Arabia, Yemen, Vietnam, Sultan, Israel, Bangladesh, Malaysia, Indonesia, Turkey, Iraq, Oman, Thailand, Zimbabwe, Ghana, Australia and England each had one publication (approximately 3.3%) (Box 2). Cross-sectional studies prevailed (83.4%), followed by quasi-experimental clinical studies (13.3%) and the search included a randomized clinical trial. Regarding the level of evidence, level VI (n=25, 83.4%), level III (n=4, 13.3%), followed by level II

(n=1, 3.3%) prevailed. Awareness of early detection strategies that were investigated by selected publications, surveys 18, 24, 16 and 9 analyzed screening in general, not including exclusive strategies. The other studies, on the other hand, tried to investigate specific strategies, concomitantly or not, namely: 25, 27 warning signs, clinical breast examination and self-examination; 1, 3, 11, 14, 26 and 31 self-examination, clinical breast examination and mammography; 10, 23 breast self-examination and clinical examination; 8, 17 self-examination and mammography; 29 warning signs and self-examination; 2 clinical breast examination and mammography; 12,13, 19 warning signs; 4, 5, 7, 15, 21, 28, 30, 20 the self-examination; 6, 22 investigated the mammography. Regarding the awareness (knowledge+practice) investigated for the adoption of early detection strategies, six studies (2, 4, 12, 14 and 15) identified that at least 50% of the women who composed the study samples were aware of the actions strategic. In 19 studies (1, 3, 5, 6, 8, 10, 11, 13, 16, 17, 18, 19, 20, 21, 22, 24, 26, 27 and 31), less than half of the participants were not aware. Still, 6 studies obtained different results depending on the strategy. In surveys 28 and 30, awareness of self-examination only reached less than half of the participants, however, in studies 23 and 29, most women were aware of this practice. In relation to another majority practice, mammography was exposed in study 29. In the randomized clinical trial, before the intervention, most women had no awareness, after the intervention, this situation was reversed.

Box 1- Search strategy used in the SciELO and PubMed databases. Campina Grande, PB 2021

Databases	Search strategy
SciELO	neoplasias da mama AND conscientização AND detecção precoce AND (la:("en" OR "pt")) AND (year_cluster:[2019 TO 2021])
PubMed	((("breast neoplasms"[MeSH Terms] OR ("breast"[All Fields] AND "neoplasms"[All Fields]) OR "breast neoplasms"[All Fields]) AND ("awareness"[MeSH Terms] OR "awareness"[All Fields] OR "aware"[All Fields] OR "awarenesses"[All Fields]) AND ("early detection of cancer"[MeSH Terms] OR ("early"[All Fields] AND "detection"[All Fields] AND "cancer"[All Fields]) OR "early detection of cancer"[All Fields])) AND (2019:2021[mdat])

Source: Research data.

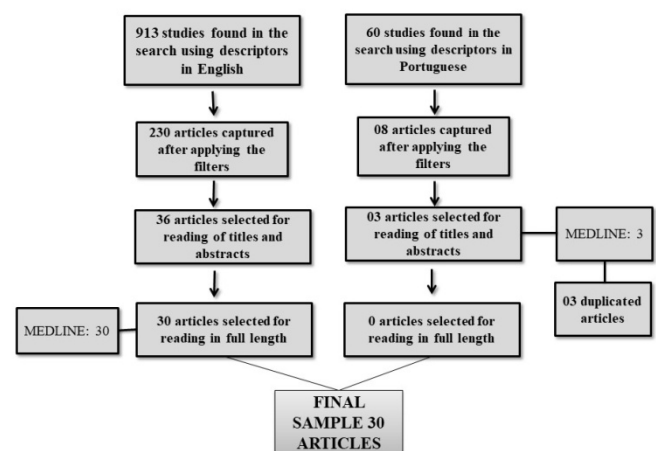


Figure 1. Article search process, 2021

DISCUSSION

The predominance of studies carried out on the African and Asian continents is visible, including, within this context, in a prominent way, low-income countries.

Box 2. Summary table of studies included to compose the final sample of this integrative review (n=30). Campina Grande, PB, 2021

ID	Main author/ Year of publication/Place	Database/ journal	Design/Sample	Main results	Level of evidence
1	ABEJE, S., <i>et al</i> 2019 Ethiopia	Pubmed/ BMC Women's Health	Cross-sectional (n= 633)	<ul style="list-style-type: none"> 53% of women already heard about breast cancer; 35.5% know at least one breast cancer screening method; Breast self-examination, clinical breast examination and mammographic examination were performed by 24.3%, 7.6% and 3.8% of the interviewees, respectively. Income and education level were associated with increased likelihood of practicing breast cancer screening methods. 	IV
2	AN, S., <i>et al</i> 2020 USA	Pubmed/ J Immigr Minor Health	Cross-sectional (n= 233)	<ul style="list-style-type: none"> The annual checkup was a factor that enabled the knowledge of the Clinical Breast Examination and mammography, and also for breast cancer education, it covered the knowledge of breast cancer screening guidelines, as well as risk factors, marital status, age and length of residence in the United States. 	IV
3	TOAN D., T. T., <i>et al</i> 2019 Vietnam	Pubmed/ Cancer Control.	Cross-sectional (n= 306)	<ul style="list-style-type: none"> More than half had a low level of knowledge and no practice in breast self-examination, clinical examination, ultrasound and mammography; Among women who practiced at least one screening method, 17% reported clinical examination and only 13.8% reported practicing self-examination; Factors associated with practice included knowledge about early detection of breast cancer were ethnicity, income, information approach and screening programs approach. 	IV
4	MOHAMED, A. O. A., <i>et al</i> 2020 Sudan	Pubmed/ J Prev Med Hyg.	Cross-sectional (n= 330)	<ul style="list-style-type: none"> The overall knowledge score revealed that 56.2% had insufficient knowledge about breast cancer; 66.3% of them had insufficient knowledge about breast self-examination, but 95.3% considered it important; 95.5% of the participants had an inadequate practice of breast self-examination. 	IV
5	BISWAS, S., <i>et al</i> 2020 Índia	Pubmed/ Asian Pac J Cancer Prev.	Cross-sectional (n= 1.916)	<ul style="list-style-type: none"> 78.2% of the interviewees had heard about breast cancer; Breast cancer awareness and self-examination were significantly associated with schooling and family income. 	IV
6	EMANI, L., <i>et al</i> 2021 Iran	Pubmed/ Nurs Open.	Cross-sectional (n= 152)	<ul style="list-style-type: none"> 38.2% of women reported having had a mammogram in the last 24 months; Lower self-efficacy, susceptibility, motivation and perceived barriers were associated with screening; 	IV
7	BAWAZIR A., <i>et al</i> 2019 Yemen	Pubmed/ Clin Breast Cancer	Cross-sectional (n= 317)	<ul style="list-style-type: none"> About half of the interviewees had satisfactory levels of knowledge and awareness about breast cancer, while 30.3% practiced breast self-examination and only 1.6% had already had a mammogram. A significant association was reported between marital status, level of education, employment status, and level of breast screening knowledge and practice. 	IV
8	SABEG, P. A., <i>et al</i> 2019 Iran	Pubmed/ J Cancer Educ.	Randomized clinical trial (n= 317)	<ul style="list-style-type: none"> After counseling, the mean knowledge about the breast cancer score was significantly higher in the intervention group than in the control group, the frequency of breast self-examination showed a significant difference between the groups; For confidence in perceiving breast changes, no significant differences were observed between groups. 	II
9	BEGUM, S. A., <i>et al</i> 2019 Bangladesh	Pubmed/ Mymensingh Med J.	Cross-sectional (n= 500)	<ul style="list-style-type: none"> 24% of the interviewees mentioned breast cancer as one of the most common in the female audience; 66% were aware that the breast lump is the main symptom and 32% mentioned not knowing anything about the symptoms; About screening, 60% mentioned not knowing anything and 10% were fully aware of screening methods such as clinical examination and self-examination. 	IV
10	ALSHAHRANI, M., <i>et al</i> Saudi Arabia 2019	Pubmed/ J Cancer Educ.	Cross-sectional (n= 500)	<ul style="list-style-type: none"> Breast self-examination was performed by 35% of patients, while 15% of patients underwent mammograms and 19.8% underwent clinical breast examinations; 20.6% of the women did not perform the breast self-examination because they were not well oriented and 26.4% of the women did not perform the clinical exam because there was no physician available. 	IV
11	SCHLIEMANN, D., <i>et al</i> 2020 Malaysia	Pubmed/BMJ Open.	Quasi-experimental Clinical Trial (n= 676)	<ul style="list-style-type: none"> Participants who recognized the campaign were significantly more likely to have improved post-campaign awareness compared with non-recognizers, particularly for key symptoms such as "a lump or thickening in the breast" (88.9% vs 62.1 %) and "nipple discharge or bleeding" (79.7% vs 55.3%). 	III
12	PRUSTY R. K., <i>et al</i> India 2020	Pubmed/ BMC Women's Health	Cross-sectional (n= 480)	<ul style="list-style-type: none"> 49% of the women knew about breast cancer, of which 75% considered a lump in the breast as the most common warning sign; Women with more than 10 years of schooling were about 4 times more likely to be aware of breast cancer than women with less than 10 years of schooling. 	IV

Continue ...

13	ABIOLA A.O., <i>et al</i> Nigeria 2020	Pubmed/ West Afr J Med.	Cross-sectional (n= 348)	<ul style="list-style-type: none"> 92.8% of the interviewees had general knowledge about breast cancer; 79.52% performed a self-exam, 72.29% had a clinical breast exam performed by a health professional and 65% reported that they had at least one mammogram. 	IV
14	RAHMAN, S. A., <i>et al</i> 2019 United Arab Emirates	Pubmed/Asian Pac J Cancer Prev.	Cross-sectional (n= 241)	<ul style="list-style-type: none"> 99% of the participants had already heard about breast cancer; 38% knew about the warning signs/symptoms; 68.5% of participants had already heard about self-examination, but few participants actually performed it. Reasons for not performing included “forgetting” and “not knowing how”. 	IV
15	SOLIKHAH, S., <i>et al</i> 2019 Indonesia	Pubmed/Asian Pac J Cancer Prev.	Cross-sectional (n= 856)	<ul style="list-style-type: none"> Living in an urban area was significantly associated with better attitudes and healthier behaviors related to breast cancer awareness. More educated women had 70% worse attitudes towards breast cancer awareness. 	IV
16	AL-QAZAZ, H. K., <i>et al</i> 2020 Irak	Pubmed/J Cancer Res Ther.	Cross-sectional (n= 384)	<ul style="list-style-type: none"> Only 10.1% and 9.6% of participants underwent mammography and self-examination, respectively. 30.3% of women who knew about self-examination performed it routinely or intermittently. A statistically significant association of knowledge level with perceived benefit and previous self-examination guidance was found. 	IV
17	AL-AZRIM., <i>et al</i> 2021 Oman	Pubmed/Asian Pac J Cancer Prev.	Cross-sectional (n= 358)	<ul style="list-style-type: none"> 92.1% of women thought that breast cancer could be cured if detected early; 81.1% knew that screening was available in Oman, although 48.5% knew where to go for screening tests and 83.8% had never had any tests. 	IV
18	HURST C.B., <i>et al</i> 2019 Thailand	Pubmed/Asian Pac J Cancer Prev.	Cross-sectional (n= 660)	<ul style="list-style-type: none"> Rural women were less aware of the signs and symptoms of breast cancer. They also had lower levels of perceived barriers and considerably better breast cancer awareness behaviors. 	IV
19	MAKURIROFA L., <i>et al</i> 2019 Zimbabwe	Pubmed/BMC Public Health	Cross-sectional (n= 409)	<ul style="list-style-type: none"> Regarding the symptoms of breast cancer, 18.3% (the highest percentage) did not know how to respond to any of the options, while 16.6% (the second most representative percentage) indicated the breast lump; Only 15.9% cited screening as secondary prevention methods for breast cancer; 50.3% indicated performing breast self-examination. 	IV
20	AGIDE F. D., <i>et al</i> 2019 Ethiopia	Pubmed/Ethiop J Health Sci.	Cross-sectional (n= 810)	<ul style="list-style-type: none"> The probability of performing breast self-examination was 54.3%. However, the participants' comprehensive knowledge was 11.5%; As independent predictors, perceived breast cancer severity and self-efficacy were positively associated with the likelihood of performing a breast self-exam, while districts and place of residence were negatively associated with the likelihood of performing a breast self-exam. 	IV
21	OLASEHINDE, O., <i>et al</i> 2019 Nigeria	Pubmed/ Eur J Cancer Care (Engl).	Cross-sectional (n= 2.222)	<ul style="list-style-type: none"> Knowledge and practice of mammography were not statistically different between the two communities; In addition to the lack of perception of need and cost, lack of awareness was the most cited reason for not performing mammography in both communities. 	IV
22	LERA, T., <i>et al</i> 2020 Ethiopia	Pubmed/ BMC Women's Health	Cross-sectional (n= 629)	<ul style="list-style-type: none"> Awareness of clinical breast examination (45.3%) and self-examination (71.6%) were reported; 36.5% of the women responded that they did not know of any breast cancer screening method; Having breastfed was associated with the practice of self-palpation. 	IV
23	AGIDE, F. D., <i>et al</i> 2019 Ethiopia	Pubmed/ Afr Health Sci.	Cross-sectional (n= 9)	<ul style="list-style-type: none"> Participants had very low awareness of aspects related to breast health and screening practices. 	IV
24	KWOK, C., <i>et al</i> 2020 Australia	Pubmed/ J Immigr Minor Health	Cross-sectional (n= 258)	<ul style="list-style-type: none"> Only 16.9% paid special attention to the breasts monthly, while 31.4% and 54.5% attended the annual clinical breast exam and biannual mammographies, respectively. Women who performed regular breast awareness and clinical breast examination activities scored significantly higher on the “Knowledge of Breast Cancer” subscale, while those who had a mammography scored significantly higher on “Attitudes toward screening of health”. 	IV
25	KAUSHAL, A., <i>et al</i> England 2019	Pubmed/ Br J Nurs.	Quasi-experimental Clinical Trial (n= 1.249)	<ul style="list-style-type: none"> Knowledge of breast symptoms and verification and confidence for breast self-examination were higher in women 70 years and older after implementation than before. 	III
26	KHARABA, Z., <i>et al</i> 2021 United Arab Emirates	Pubmed/ J Community Health	Cross-sectional (n= 400)	<ul style="list-style-type: none"> 28% performed the clinical examination at least once and 184, 46% practice self-examination. 33% of participants were aware of the incidence of breast cancer and these women were more likely to practice clinical examination; There was a high level of awareness in identifying cancer as a curable (91.5%) and non-communicable (87%) disease that can be diagnosed in its early stages (93%); 87% of respondents were able to identify at least a single sign/symptom. 	IV

Continue ...

27	OSSAI, E.N., <i>et al</i> 2019 Nigeria	Pubmed/ Niger J Clin Pract.	Cross-sectional (n= 365)	<ul style="list-style-type: none"> • 76.4% knew about breast self-examination; • 55.3% had good knowledge about breast self-examination and 63.6% reported that they had already practiced breast self-examination; however, 15.9% of respondents examined their breasts frequently. • Predictors of breast self-examination included having a good knowledge of breast self-examination and having a close relative diagnosed with breast cancer. 	IV
28	SADOH, A. E., <i>et al</i> 2021 Nigeria	Pubmed/ BMC Women's Health	Quasi-experimental ClinicalTrial (n= 1.201)	<ul style="list-style-type: none"> • The mean score of knowledge about breast cancer and warning signs and symptoms before training was low and improved statistically significantly after training; • Before training, 67.8% knew about self-examination, but 4.8% performed it. After training, significantly more (94.7%) knew about self-examination. 	IV
29	DADZI, R., <i>et al</i> 2019 Ghana	Pubmed/ PLoS One	Cross-sectional (n= 385)	<ul style="list-style-type: none"> • Although 88.3% of the interviewees knew about breast cancer, 64.9% had good or sufficient knowledge about breast cancer and only 37.6% practiced self-examination; • There was a significant association between knowledge about breast cancer and older age with the practice of self-examination. 	IV
30	WU, T., <i>et al</i> 2019 Philippines	Pubmed/ Clin J Oncol Nurs.	Quasi-experimental ClinicalTrial (n= 1.774)	<ul style="list-style-type: none"> • 57% had heard about the self-examination, however, about half reported never having performed it; • 38% had heard of a clinical examination, but 18% reported having performed it; • 28% knew about the mammogram, but 9% reported having performed it; • Of women aged 40 and over, 93% reported planning to obtain an annual clinical examination after the program; As well as 75% planned to have a mammography. 	IV

Even though high- and low-income countries experience an increase in the incidence of breast cancer, there is inhomogeneity in the burden of disease between countries of different income levels, in agreement with the estimate by the disability-adjusted life year, a general calculation that can be used for diseases, where it relates duration and quality of life (Bellanger *et al.*, 2018). At a global level, the increasing rates and differences in the occurrence of breast cancer between developed and underdeveloped countries indicate divergence. The latter arrived late in the transition phase to cancer. Thus, the increase in the incidence rate of various cancers, including breast cancer, and non-communicable chronic diseases is a more prominent reflection in high-income countries due to lifestyle, population growth and aging, in addition to certain reproductive patterns that are considered risk factors for the development of breast cancer. However, when mortality rates are portrayed, underdeveloped countries lead the figures (Sung *et al.*, 2021; Bellanger *et al.*, 2018). However, although low- and middle-income countries are the most affected in terms of morbidity and mortality, most of these countries have not yet published national guidelines for screening and early detection of breast and cervical cancer (Anwar *et al.*, 2018). Certainly due to the low propagation or absence of guidelines, there is a greater interest on the part of researchers in highlighting the knowledge, practice and obstacles that women residing in these locations experience, regarding the methods of screening for breast cancer. In other low- and middle-income countries where national cancer screening programs have been introduced, such as those in the Middle East and North Africa, where screening ranges from 2% to 70% of the population at risk, improving participation rates continues being a challenge (Sancho-Garnier, 2013).

In sub-Saharan Africa, it is estimated that less than 5% of women at risk have been screened for cervical cancer. In addition, some countries take emergency measures aimed at other diseases, as is the case with Ethiopia's health service, which is inadequately equipped to manage the cancer prevention and treatment needs of a large and constantly growing population (Chaka *et al.*, 2018). The INCA emphasizes that if there is an early diagnosis, one in three cases of cancer can be cured. Even so, the population in general does not talk about it out of fear or ignorance and ends up delaying the diagnosis. The need to undo beliefs and raise awareness about cancer is necessary so that the disease is no longer seen as a death sentence or an incurable and inevitable evil (Brasil, 2014).

Early detection by screening, with or without the use of preventive measures, can reduce the burden of disease, but has disadvantages, including overdiagnosis, anxiety related to additional tests, and costs associated with screening (Gagnon *et al.*, 2016). Screening programs and guidelines for the early detection of breast cancer are widespread, especially in developed countries. These countries have more resources; even with considerable variation in terms of screening methods, starting age, age at discontinuation and screening interval between countries, the results of the strategies show positive data (Ebell *et al.*, 2018). However, opportunistic screening is prevalent. Although strategies and programs support guidelines and encourage breast cancer prevention, the effectiveness of these measures is debatable, with adherence to preventive methods being limited, given that most women seek help when there are substantial proportions of the disease. There is evidence that this reality is justified due to the absence or little knowledge of the risk factors of the disease, initial symptoms and the importance of early detection for a favorable prognosis. There is also the recognition that women treated in public services have a worse prognosis, a situation that is mainly attributed to the fact of late diagnosis and consequent advanced stage (Derenzo *et al.*, 2017). Studies show that the level of cancer awareness is significantly related to the early detection of breast cancer (Cruz-Castillo *et al.*, 2015; Dey *et al.*, 2015). Knowledge and consequent decision-making is not always achievable for everyone equally. Personal, social and economic factors are the main determinants for achieving awareness. In Ethiopia, a study on factors associated with breast cancer awareness and screening practices described income, education level, and family history of breast cancer as variables associated with increased awareness of breast cancer screening. (Abeje *et al.*, 2019). In addition to these, other influential factors can be identified in the literature, such as marital status, age, ethnicity, location where the women live (urban and rural areas), breastfeeding experience, self-efficacy, motivation and perceived barriers (2, 3, 6, 8, 24). The fatalism that affects many women who live in the regions with the greatest reach of this review, the detection efforts themselves, can prevent or delay the search for care after the self-detection of symptoms. This idea may be why women wait, on mean, two years after self-detecting a breast lump before seeking medical attention. Education and efforts to improve awareness should change the perceived benefits of women in early detection as, even in resource-poor areas, breast cancer is survivable if treated at an early stage (Scheel, 2018).

To increase adherence to screening, one of the key activities across interventions is the management of associated barriers. The main barriers highlighted that contribute to low screening rates among low-income women, in particular, suggest that there are personal and health factors that influence participation in screening activities. These barriers include lack of awareness about screening, embarrassment in participating in procedures such as clinical examination and mammography, low confidence in prevention and fear of a favorable diagnosis of cancer, procrastination, social and cultural beliefs and perceptions of discrimination in the health system (Siddharth *et al.*, 2016). The most important opportunities to improve screening practices within the health system are in primary health care. In one study, there was an emphasis on the role of the family doctor and other professionals in general, as the main source of information on the relevance of early detection, being the capture of knowledge, a strong artifice for the awakening of the target populations (Lofters *et al.*, 2015).

Individual and group interventions in public awareness campaigns can lead to improved breast cancer survival in populations of low-income countries since, compared to high-income countries, these are the main strategies that have been bringing to the over the years, positive results. It is currently not known exactly whether the increased level of consciousness will result in a reduction in breast cancer mortality. However, it is a fact that women with little awareness of symptoms delay in seeking the health professional for investigation and this could directly suggest an influence of breast perception on mortality (Dodd *et al.*, 2017). Efforts to promote knowledge about cancer risk factors and signs and symptoms must reach all women as well as men, and provide health education and community-based and profile-based interventions. Such efforts could promote a positive attitude towards treatment options, outcomes and survival in female cancers, in an attempt to change the negative setting and thus improve practices that could help overcome bad conscience and consequent practice. It is important, however, that these are considered together with barriers to access and availability, especially in primary health care services and other services immersed in the care network (Chaka *et al.*, 2018).

CONCLUSION

In view of the results obtained through the analysis of the selected studies, it becomes evident, as far as possible, the importance of involving women in screening activities with a screening experience that can be positive. The interventions carried out and planned around the world are linked to the investment to overcome the numerous barriers that are found between knowledge and decision-making in face of early detection strategies. Public awareness campaigns aim and achieve the best survival of breast cancer in the female audience, and have been adopted in populations of underdeveloped countries, since in developed countries, they have been conceptualized practices for years and have brought positive results over time. It is still not known with certainty whether the increase in the level of awareness results in a decrease in the number of mortality from breast cancer, but it is certain that women with little awareness of the warning signs end up delaying the search for the health professional for greater investigation and diagnostic elucidation.

Thus, it is directly suggested that it is a mechanism that influences mortality, since “good prognosis” is characteristic of breast cancer, if diagnosed early. In this way, it is necessary to provide and strengthen health education, promote a positive attitude towards women's awareness of perceived benefits, self-palpation, warning signs, diagnostic methods, treatment options, outcomes and survival in female cancers, in an attempt to change the negative configuration and thus improve practices. It is important, however, that these are analyzed together with barriers to access and availability, especially in primary health care services and other services that make up the care network.

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