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POPULAR KNOWLEDGE ON MALE BREAST CANCER: IMPLICATIONS FOR NURSING CARE

Conhecimento popular sobre o câncer de mama masculino: implicações para a assistência de enfermagem
Conocimientos populares sobre el cáncer de mama masculino: implicaciones para la atención de enfermeira

Ivan Braga de Oliveira¹ Thiago Augusto Soares Monteiro da Silva² 

RESUMO

Objetivo: avaliar o conhecimento da população acerca do câncer de mama masculino. **Método:** descritivo e exploratório realizado com 220 participantes por meio de questionário estruturado online entre junho de 2024 e fevereiro de 2025. Os dados foram analisados por estatística descritiva e análise de conteúdo temática, abordando conhecimento sobre sintomas, fatores de risco, práticas de rastreamento e fontes de informação. **Resultados:** 153 (69,5%) dos participantes conhecem o tema, mas apenas 35 (15,9%) reportaram ter conhecimento detalhado. Além disso, 141 (64,1%) não souberam identificar os sinais e sintomas e 156 (70,9%) desconheciam os fatores de risco. O ambiente de trabalho e o acadêmico, experiências pessoais e redes sociais foram as fontes de informação mais citadas. **Conclusão:** identificou-se que é necessário a criação de estratégias integradas de educação em saúde para reduzir o estigma, promover o diagnóstico precoce e melhorar os desfechos clínicos dos homens acometidos com o câncer de mama.

DESCRITORES: Neoplasia da mama; Conhecimentos, Atitudes e prática em saúde; Detecção precoce de câncer; Saúde do homem; Enfermagem.

RESUMEN

Objetivo: evaluar el conocimiento de la población sobre el cáncer de mama masculino. **Método:** estudio descriptivo y exploratorio realizado con 220 participantes a través de un cuestionario estructurado en línea entre junio de 2024 y febrero de 2025. Los datos se analizaron mediante estadística descriptiva y análisis de contenido temático, abordando el conocimiento

^{1,2}University of Vassouras, Vassouras, Rio de Janeiro, Brazil.

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CORRESPONDING AUTHOR: Ivan Braga de Oliveira

E-mail: bragivan21@gmail.com

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sobre síntomas, factores de riesgo, prácticas de detección y fuentes de información. **Resultados:** 153 (69,5%) de los participantes conocían el tema, pero sólo 35 (15,9%) reportaron tener conocimiento detallado. Además, 141 (64,1%) no pudieron identificar los signos y síntomas y 156 (70,9%) desconocían los factores de riesgo. El entorno laboral y académico, las experiencias personales y las redes sociales fueron las fuentes de información más citadas. **Conclusión:** se identificó que es necesario crear estrategias integrales de educación en salud para reducir el estigma, promover el diagnóstico temprano y mejorar los resultados clínicos de los hombres afectados por cáncer de mama.

DESCRIPTORES: Neoplasia de la mama; Conocimientos, actitudes y prácticas en salud; Detección precoz del cáncer; Salud del hombre; Enfermería.

ABSTRACT

Objective: to assess the population's knowledge about male breast cancer. **Method:** a descriptive and exploratory study was conducted with 220 participants via a structured online questionnaire from June 2024 to February 2025. Data were analyzed using descriptive statistics and thematic content analysis to address knowledge of symptoms, risk factors, screening practices, and sources of information. **Results:** 153 (69.5%) of the participants were familiar with the topic, but only 35 (15.9%) reported having detailed knowledge. Additionally, 141 participants (64.1%) were unable to identify the signs and symptoms, and 156 participants (70.9%) were unaware of the risk factors. Work and academic environments, personal experiences, and social networks were the most cited sources of information. **Conclusion:** it was identified that integrated health education strategies are necessary to reduce stigma, promote early diagnosis, and improve clinical outcomes for men affected by breast cancer.

DESCRIPTORS: Breast neoplasms; Health knowledge, attitudes, practice; Early detection of cancer; Men's health; Nursing.

INTRODUCTION

Breast cancer is a public health problem that results from abnormal cells multiplying in breast tissue and forming a malignant neoplasm that can invade other organs. This development can occur gradually or invasively. Male and female breasts are anatomically similar as they both have ducts and lobular tissues surrounded by fibroadipose tissue.¹

Mammary neoplasms represent 1% of neoplasms in men. They frequently affect the ducts and are often diagnosed at more advanced stages, making treatment difficult and reducing the survival rate of those affected.¹⁻²

Regarding pathophysiology, male breast cancer is influenced by multiple factors, as is female breast cancer. Hormonal and genetic factors, together with the accumulation of mutations in breast tissue cells, can cause uncontrolled cell proliferation.³

The main risk factors include advanced age, family history of breast cancer, genetic mutations (BRCA1 and BRCA2), Klinefelter syndrome, exposure to radiation, liver disease (including excessive alcohol consumption), gynecomastia, obesity, testicular tumors, orchitis, testicular trauma, and hormonal therapies involving estrogen.^{1,4}

Signs and symptoms of breast neoplasia in men can include lumps, nipple retraction, breast pain, and changes in breast tissue, such as redness, scaling, or thickening. Other symptoms

can include clear or bloody nipple discharge. Some men may also experience systemic symptoms such as unexplained weight loss, persistent fatigue, and enlarged lymph nodes in the armpit area.⁵⁻⁶

It is important to note that men will not always have visible symptoms of the disease. Therefore, it is essential to pay attention to any changes, even subtle ones, and seek a proper evaluation from a professional.⁷

The main obstacle to diagnosing the disease is the male public's lack of adherence to healthcare, which creates an immense challenge for professionals to prevent, diagnose, and treat the disease early.⁸

Delaying seeking medical care and continuously being exposed to risk factors contributes to male breast cancer presenting itself in a more aggressive form, although it is rare. This is due to the late diagnosis, meaning the disease is often identified in advanced stages, making treatment difficult and compromising the prognosis and recovery of affected patients.^{1,9}

Due to the absence of specific protocols for men, the treatment for breast cancer in men follows the same protocols established for female cases. In general, the treatment process begins with surgery and may include chemotherapy, radiation therapy, and, in specific cases, hormone therapy. These approaches align with recommendations in the medical literature.^{7,10-11}

Many men are unaware that they can develop the disease and therefore do not seek medical attention or carry out preventive practices, such as routine exams. This makes it difficult to detect the disease.¹²

Investing in public education about the subject is necessary to reduce the stigma around the disease and promote an environment of care and support where men feel comfortable expressing their needs. Educational strategies aimed at raising awareness among this population are necessary to promote early detection, improve treatment outcomes, and enable a better quality of life for individuals.¹³

This study aimed to evaluate the population's knowledge on male breast cancer.

METHOD

This is a qualitative, descriptive, and exploratory study. The 220 participants were individuals from the community who met the following criteria: being between 18 and 90 years of age. Those excluded were individuals under 18 or over 90 years of age, as well as those without regular and reliable access to the internet.

Data were collected through a structured questionnaire developed and administered via the online platform Google Forms. The instrument was composed of: Closed questions: These were used to obtain objective and quantifiable data using the Likert scale, and Open questions: used to allow more detailed and subjective answers. To assess the participants' attitudes, perceptions, and opinions, the questionnaire addressed topics such as 1. Sociodemographic characteristics of the participants; 2. Knowledge about male breast cancer; 3. Sources of information on the matter; 4. Knowledge about diagnostic methods and risk factors; 5. Frequency of seeking medical assistance; and 6. Perceptions about the importance of breast and self-care.

Before starting the questionnaire, participants were directed to read the informed consent form, in which they were informed about the ethical aspects of the research, including the right to anonymity and withdrawal without prejudice. Those who did not agree to participate were redirected to a thank you message with the option to contact the researchers later.

The link to the questionnaire was disseminated widely through social networks to efficiently reach the target audience. After reading and accepting the ICF, participants were directed to the questionnaire. Upon completing the questionnaire, participants received a thank you message and were given the option to download or print the ICF, ensuring transparency

and availability of the document. Participants could abandon the survey at any time by closing the Google Forms tab without losing any data.

Data collection took place between June 2024 and February 2025, according to a schedule that was previously established and approved by the Research Ethics Committee under opinion number 6,926,931. This ensured compliance with the ethical guidelines for research involving human subjects. All participants were informed of their rights and the objectives and procedures of the research, as outlined in the Informed Consent Form (ICF). The ICF guaranteed anonymity, voluntariness, and the right to withdraw at any time, in accordance with National Health Council Resolutions 466/12 and 510/16. Participants were warned about the risk of emotional discomfort due to questions addressing sensitive health issues, as well as informed of the benefits related to positive social impact and contribution to scientific knowledge.

The collected data were analyzed using descriptive statistics and tables and graphs to facilitate interpretation and visualization of the results. The open-ended responses were categorized and analyzed qualitatively using content analysis, which includes pre-analysis, material exploration, and interpretation of results. The results were organized into thematic categories, enabling an in-depth discussion of the participants' knowledge, perceptions, and experiences regarding male breast cancer.

RESULTS

Sociodemographic Data

The sociodemographic data revealed that the analyzed group had a gender distribution of 114 (52.1%) female and 105 (47.9%) male participants (Table 1).

The largest group of participants, 83 (38.1%), was in the 26-35 age range. The predominance of young and middle-aged adults suggests an audience with potential access to media and educational campaigns, which may favor prior knowledge of the studied topic.

Regarding the level of education, 94 participants (42.7%) had completed higher education, and 64 participants (29.1%) had not. These data indicate a population profile with a predominance of individuals with higher levels of education. Theoretically, this could be associated with a greater propensity to access and understand information on health topics, including low-prevalence, little-discussed diseases such as male breast cancer.

Table 1 – Sociodemographic data. Vassouras, Rio de Janeiro, Brazil, 2025

Sociodemographic data	N	%
Gender		
Female	114	52,1
Male	105	47,9
Age group		
18-25	46	21,1
26-35	83	38,1
36-45	57	26,1
46-55	19	8,7
56-65	13	6,0
Education		
Complete higher education	94	42,7
Incomplete higher education	64	29,1
High school	50	22,7
Incomplete high school	3	1,4
Complete elementary school	6	2,7
Incomplete elementary school	3	1,4
Total number of participants	220	100%

Source: The Authors.

Regarding occupation, most participants were found to be in the health field (65%, or 35.5%), suggesting that many participants had training or experience in healthcare settings

(Table 2). This could expand their knowledge of public health issues, such as male breast cancer.

Table 2 – Distribution of participants by area and profession. Vassouras, RJ, Brazil, 2025

Area	Professions	N	%
Health	Nurse, nursing technician, psychologist, doctor, pharmacist, physiotherapist, first aider, community health agent, therapist, nutritionist, surgical instrumentator.	65	35,5%
Administration and General Services	Administrative assistant, receptionist, human resources assistant, supervisor, operational administrator, invoicer, condominium administrator.	26	14,2%
Education and Training	Student, intern, teacher, young apprentice, university professor, education professional.	17	9,3%

Area	Professions	N	%
Trade and Sales	Salesperson, sales consultant, clerk, sales promoter, cashier, attendant, salesman, eyebrow designer, etc.	15	8,2%
Transportation and Production	Driver; taxi driver; production operator; structural assembler; mechanic; electrician; gardener; security guard; firefighter; sector foreman.	14	7,7%
Public and Legal Sector	Public servant, state servant, military police officer, lawyer.	12	6,6%
Technology and Engineering	Building Technician, Electrical Technician, Engineer, Systems Analyst, Information Technology	5	2,7%
Informal and Domestic Work	Housewife, housekeeper, retired, self-employed, entrepreneur, hairdresser, tattoo artist, manicurist, designer, daycare assistant.	29	15,8%
Total number of participants		183	100%

Source: The Authors.

These data demonstrate a concentration of participants who have greater access to health information. In contrast, there is a reduced representation of professionals from other sectors who could contribute different knowledge profiles on the topic under study. The observed occupational distribution can directly influence the identified patterns of knowledge about male breast cancer.

Knowledge on male breast cancer

When asked if male breast cancer is exclusively a women's concern, 133 participants (60.5%) answered "no," 69 participants (31.4%) answered "yes," and 18 participants (8.2%) answered "not sure." The data show that most participants do not view breast cancer as exclusively a female disease; however, a significant portion (31.4%) still view it as such. When asked if there is a stigma related to breast cancer in men,

149 participants (67.7%) answered "yes." Of these participants, 218 (99.1%) mentioned the need for greater awareness for both sexes (Table 3).

Considering that 141 participants (64.1%) did not know the main signs and symptoms of the disease, while 35 participants (15.9%) answered "yes" and 44 participants (20%) said they were partially aware, the need for campaigns aimed at raising awareness about the disease is reinforced to educate the general population (Table 3).

When asked if they knew any men diagnosed with breast cancer, 188 participants (85.5%) said no, while 32 participants (14.5%) said yes (Table 3). These results highlight the low visibility of breast cancer in men, contributing to the misconception that it is exclusively a women's disease. This makes it difficult to recognize cases and encourage early diagnosis among men.

Table 3 – Knowledge on male breast cancer. Vassouras, RJ, Brazil, 2025

Knowledge on male breast cancer	N	%
Heard of		
Yes	153	69,5
No	67	30,5
Knowledge level		
Little	88	40

Knowledge on male breast cancer	N	%
Moderate	53	24,1
None	72	32,7
A lot	7	3,2
Signs and symptoms		
No	141	64,1
Yes	35	15,9
Partially	44	20
Risk factors		
No	156	70,9
Yes	27	12,3
Partially	37	16,8
There is prejudice against men with breast cancer		
No	40	18,2
Yes	149	67,7
Not sure	31	14,1
Importance of awareness		
No	1	0,5
Yes	218	99,1
Not sure	1	0,5
Total number of participants	220	100%
Information source		
Undergraduate/Graduate course	44	31
Working environment	41	29
Internet/Social Media/Media	26	18
Personal or known experiences	20	14
Awareness/General Information	11	8
Total number of participants	142	100%

Source: The Authors.

Information network on male breast cancer

Of the evaluated participants, 215 (97.7%) said that men are not informed about breast cancer, while only two (0.9%) answered yes. Three participants (1.4%) said they were unsure if information aimed at men existed. These data reveal a lack

of dissemination of information about male breast cancer, showing a scenario of misinformation that can compromise early detection and adequate coping with the disease.

The most cited sources of information were academic environments (31%), work environments (29%), personal

experiences (14%), social networks (18%), and general information (11%). As highlighted by the respondents(P¹).

I've seen cases in my work. (P52)

I found out about male breast cancer in college. Before that, I had not heard of it. I only knew about prostate cancer. (P108)

Report showing some data from INCA. (P30)

I met a young man who had breast cancer. (p61)

As for professionals working in healthcare, they obtained the information when faced with cases during their professional experience, mainly at cancer centers and hospitals.

I have worked in oncology for years and have treated men with breast cancer. (P144)

I have treated male patients with breast cancer. (P13)

In a hospital, I observed a case. (P133)

In my 11 years of working in oncology, I've had two patients. (P203)

Some participants report having knowledge of the subject through social media, as evidenced by the participants' reports. Reports on the Internet (P26), documentaries (P61), and personal experience:

I lost a friend to this disease. (P75)

A friend had breast cancer. (P50)

Knowledge of the signs, symptoms, and risk factors of breast cancer in men

Regarding knowledge of the disease's signs and symptoms, 35 people (15.9%) said they were aware of them, 141 people (64.1%) said they were not, and 44 people (20%) reported being partially aware, describing the following:

Lump in the breast or armpit, Unilateral breast pain, Swelling near the nipple, Nipple retraction, Redness or peeling of the nipple skin, Swelling in the axillary lymph nodes (P111)

Palpable nodules in the breast or axillary region. Pain. (P121)

Breast nodules, nipple retraction, and skin changes. (P31)

Pain, papillary discharge, and axillary and breast lymph nodes, breast lump or lesion. (P14)

When asked about risk factors, 27 people (12.3%) said they knew the main factors. Meanwhile, 156 people (79.9%) said

they did not have any pertinent information, and 37 people (16.8%) claimed to know only some of the factors.

This study revealed that male breast cancer is a widely unknown topic that requires widespread dissemination with a focus on prevention, diagnosis, and early treatment.

Preventive practices for male breast cancer

When asked if they knew someone who had undergone breast cancer screening, 196 people (89.5%) answered no and 23 people (10.5%) answered yes. These results suggest a possible failure in communication and promotion of this essential practice for the early diagnosis of the disease, as they point to a low visibility of screening in people's social experience. Participants cited phrases such as:

Men can also develop breast cancer, even with lower chances. Therefore, prevention is important for men too, but they face certain prejudices. (P158)

When asked about the survival rate of male breast cancer, 198 participants (90%) answered that they did not know. Eight participants (3.6%) answered yes, and 13 participants (5.9%) reported partial knowledge. These results reveal a significant lack of knowledge about the prognosis of the disease, which can generate fear and misinformation, and contribute to delays in seeking diagnosis and treatment among men.

Regarding the importance of raising awareness about male breast cancer, 218 participants (99.1%) recognized its relevance. Only one participant (0.5%) answered "no" and one participant (0.5%) answered "not sure." These results demonstrate that most people understand the need to promote information and visibility about the disease. This finding reinforces the potential positive impact of educational campaigns aimed at men. As some participants suggested:

Break down the prejudices and paradigms surrounding breast self-examination in men. Consider that early detection of male breast cancer can lead to cure rates of up to 90%. Open a dialogue and provide information to the population. (P159).

Ideally, there would be an indication for male breast screening with any imaging test, be it mammography, ultrasonography, or magnetic resonance imaging. (P146).

I have worked in oncology for years and have treated men with breast cancer. However, I agree that it is underpublicized, and many men think they cannot have breast cancer. That's why they don't seek treatment. (P167)

Research reveals that although some participants report having knowledge about male breast cancer, this knowledge

1 Participants will be identified by the letter P followed by Arabic numerals.

is limited and must be expanded. Prejudice associated with the disease, coupled with the public's lack of awareness and the scarcity of accurate, accessible information, is one of the main obstacles to overcome. In this context, it is crucial to implement initiatives that promote men's health, such as expanding access to screening tests and disseminating clear and reliable information through official channels. These measures are crucial for early diagnosis, which significantly improves treatment effectiveness and reduces mortality associated with the disease.

DISCUSSION

The study revealed that knowledge of male breast cancer remains limited, even among individuals with academic training or professional ties to the healthcare field. Many still associate the disease with women exclusively, which perpetuates taboos and silences men's experiences when they receive a diagnosis.

One study¹⁴ discussed that, when adjusted for age and staging, cancer prognoses in men and women reveal significant similarities. However, older age at diagnosis has a direct impact on survival outcomes for men, demonstrating the need for targeted educational campaigns. The lack of information about signs, symptoms, and risk factors, combined with the scarcity of initiatives aimed at men, contributes to delays in seeking care.

Social networks were identified as a primary source of information about male breast cancer, highlighting the absence of accessible, formal educational content for the public in general and underscoring the necessity of more effective awareness strategies. This information underscores the importance of discussing early diagnosis, which is crucial for successful treatment. A lack of adequate information can lead to significant delays in seeking specialized medical care and reduce survival rates.⁹

The literature widely disseminates that most men tend to avoid preventive health services and usually only seek medical attention when presenting symptoms to seek immediate relief. Many resort to fragmented sources of information that, although accessible, are ineffective in providing solid, reliable knowledge^{5,11}. This reinforces the need to implement active, structured public health education policies and create didactic material that attracts the public, such as infographics and illustrations aimed at men.

The study revealed a concerning scenario due to the lack of knowledge about male breast cancer in the general population and its potential consequences. Most participants

demonstrated only a superficial familiarity with the topic and lacked an in-depth understanding of its severity and clinical characteristics. This information gap is evident even among health professionals, which underscores the need for improved communication and health education strategies through the creation of specific campaigns aimed at men.

A study that analyzed the knowledge, practices, and attitudes of nursing professionals regarding the detection of breast cancer in primary healthcare settings revealed that even healthcare professionals had deficient knowledge of male breast cancer. These findings are consistent with the data identified in this study, which highlights weaknesses in the development of professional skills. This deficiency compromises early detection and the appropriate, individualized management of male patients.

Studies¹⁸⁻¹⁹ have shown that low risk perception among men is a determining factor in late diagnoses. This reality was reinforced in this study, in which only a few participants demonstrated knowledge of the symptoms.

Prejudice surrounding the disease is one of the main obstacles to diagnosis, as many people associate it exclusively with the female sex. This cultural perception causes men to underestimate or ignore symptoms, leaving them more vulnerable and often resulting in fatal outcomes, as evidenced by other studies.^{5,20}

According to the data, men must be included in public health policies, and more active campaigns must be directed toward this population to improve knowledge of male breast cancer. This is in line with the guidelines for the early detection of breast cancer in Brazil.¹¹

Despite the risks of information fragmentation, the results suggest that social networks represent important channels for disseminating information. This finding is consistent with a study¹⁵ that evaluated the production and validation of an educational video. Even if the context is different, it is possible to apply this study to validate such strategies. Therefore, greater dissemination of the pathology through short videos and infographics in an attractive and easy-to-understand format could lead to good results in terms of early diagnosis.

INCA recommends including breast cancer in men in health policies, but the research shows that this guidance needs to be implemented more effectively, as it is still limited. Specific campaigns aimed at men are also scarce.²¹⁻²²

Notably important is the creation of educational materials adapted to a male audience, as is the case with campaigns for women. These resources should be accessible to all.²³

To minimize health problems among men, the Unified Health System (SUS) established the National Policy for

Comprehensive Attention to Men's Health (PNAISH) in 2009. This policy prioritizes a comprehensive and humanized approach to care. However, more actions aimed at this audience are necessary to ensure greater visibility and effectiveness in meeting men's specific needs.²⁴⁻²⁵

One limitation of the study is the low participation of health professionals and academics, considering this group has more access to medical information. Another limitation of the study that influenced the sample was the use of an online form, which excluded populations without internet access and individuals with low incomes.

Therefore, it is essential to consider face-to-face data collection to reach a wider audience, including those without access to digital research. This approach will allow us to gather a greater number of responses and ensure greater diversity and representativeness in the information collected. It will also enrich the analyses and results obtained.

CONCLUSION

The study revealed a lack of knowledge about male breast cancer amid the population, underscoring the necessity of coordinated educational strategies among health professionals, educators, and policymakers. Implementing awareness campaigns integrated into academic curricula and the media is crucial to demystifying stigmas and promoting preventive care. These initiatives will facilitate early diagnoses and promote better clinical outcomes and improved quality of life for men.

There is an urgent need for integrated actions to improve community knowledge about malignant breast neoplasms in men, making it essential to develop educational strategies, public policies, and changes in clinical practice to reduce the lack of knowledge on the subject.

Future studies are needed to assess the impact of educational interventions aimed at raising awareness about male breast cancer. Expanded investigations considering different social contexts, such as age, education level, and geographic region, can provide valuable data on changes in population knowledge over time. This data can contribute to the development of more effective health promotion strategies and reduce informational inequalities.

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