

# Knowledge, Attitudes, and Practices of Healthcare Professionals on Breast Cancer Screening in a Cameroonian Reference Hospital

Berthe Sabine Esson Mapoko<sup>1,2\*</sup>, Arielle Fonkou<sup>1</sup>, Esther Dina Bell<sup>3</sup>, Etienne Atenguena Okobalemba<sup>1</sup>, Veronique Batoum<sup>1</sup>, Michel Mouelle<sup>1,4</sup>, Ruth Mapenya<sup>1,2</sup>, Anne Sango<sup>5</sup>, Anne Marthe Maison<sup>3,6</sup>, Dominique Anaba<sup>5,6</sup>, Ambroise Ntama<sup>3</sup>, Sidonie Ananga<sup>3,6</sup>, Hervé Stéphane Enyegue<sup>1</sup>, Micheline Guebidiang<sup>1</sup>, Zacharie Sando<sup>1,4</sup>, Paul Ndom<sup>1</sup>

<sup>1</sup>Faculty of Medicine and Biomedical Sciences (FMSB), The University of Yaoundé I, Yaoundé, Cameroon

<sup>2</sup>Oncology Service of Yaoundé Central Hospital, Yaoundé, Cameroon

<sup>3</sup>Faculty of Medicine and Pharmaceutical Sciences, The University of Douala, Douala, Cameroon

<sup>4</sup>Oncology Service of Gyneco-Obstetric and Paediatric Hospital Yaoundé, Yaoundé, Cameroon

<sup>5</sup>Faculty of Health Sciences, University of Buea, Buea, Cameroon

<sup>6</sup>Oncology Service of Douala General Hospital, Douala, Cameroon

Email: \*mapokob@yahoo.fr

**How to cite this paper:** Mapoko, B.S.E., Fonkou, A., Bell, E.D., Okobalemba, E.A., Batoum, V., Mouelle, M., Mapenya, R., Sango, A., Maison, A.M., Anaba, D., Ntama, A., Ananga, S., Enyegue, H.S., Guebidiang, M., Sando, Z. and Ndom, P. (2025) Knowledge, Attitudes, and Practices of Healthcare Professionals on Breast Cancer Screening in a Cameroonian Reference Hospital. *Advances in Breast Cancer Research*, 14, 96-103.

<https://doi.org/10.4236/abcr.2025.144009>

**Received:** August 10, 2025

**Accepted:** September 26, 2025

**Published:** September 29, 2025

Copyright © 2025 by author(s) and Scientific Research Publishing Inc. This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

**Background:** Breast cancer represents a significant burden in Cameroon, and early detection is a key pillar for improving prognosis. Healthcare professionals are crucial actors in raising awareness and guiding patients. However, their own knowledge, attitudes, and practices (KAP) regarding screening remain poorly documented. The objective of this study was to evaluate the KAP of healthcare staff at the Yaoundé Central Hospital (YCH) regarding breast cancer screening. **Method:** A prospective cross-sectional study was conducted from September to October 2023 among healthcare staff at the Yaoundé Central Hospital. Sociodemographic data and KAP on breast cancer screening were collected using a questionnaire. Descriptive analysis was performed using Epi Info version 3.5.4 software. **Results:** The study included 105 healthcare professionals, with a mean age of 35.5 years. All participants had heard of breast cancer, and 94.9% recognized the existence of risk factors. Mammography, breast self-examination (BSE), and ultrasound were known as screening methods by 83.1%, 84.4%, and 48.1% of participants, respectively. However, personal screening practices were low among female staff (n = 76), with 48.7% reporting personal screening, predominantly through BSE (65.8%). Mammography was only performed by 31.6% of them. Furthermore, 47.4% of women performed mammography annually, which does not align with screening guide-

lines that recommend doing so every two years. **Conclusion:** The healthcare staff at YCH possess a good level of theoretical knowledge about breast cancer and screening. However, this knowledge does not translate into optimal attitudes and practices, particularly concerning the use of mammography. It is imperative to intensify continuing education and targeted awareness initiatives for healthcare professionals to harmonize their practices with scientific guidelines and thus improve patient care.

### Keywords

Knowledge, Attitudes, Practices, Healthcare Staff, Screening, Breast Cancer, Cameroon

---

## 1. Introduction

Breast cancer is the most frequently diagnosed cancer in women globally, and it remains the leading cause of cancer mortality in high-income countries [1]. In 2020, GLOBOCAN reported 2.3 million new cases and over 685,000 deaths worldwide [2]. In Cameroon, breast cancer is also the primary cause of cancer mortality among women, with 4170 new cases and 2108 deaths recorded in 2020, closely followed by cervical cancer [3]. These alarming statistics underscore the urgency of adopting effective control strategies, with early detection being the foremost priority [4] [5].

Breast cancer is defined as a malignant tumor of the breast, specifically an uncontrolled proliferation of ductal and lobular cells in the breast that have acquired the ability to invade neighboring and distant organs [6]. Early diagnosis of breast cancer is a major prognostic factor, significantly improving survival rates [7]. In developed countries, organized screening programs based on mammography have reduced breast cancer mortality by 25% to 30% [8]. However, in low-income countries, these programs are often non-existent or underdeveloped.

In this context, healthcare staff play a crucial role. As the first line of contact with patients, healthcare professionals are ideally positioned to educate, raise awareness, and guide women toward appropriate screening methods [9]. Their own level of knowledge, attitudes, and screening practices are key indicators of the quality of care and advice they can offer [10]. Studies conducted in other sub-Saharan African countries have revealed gaps in the KAP of healthcare professionals, which can hinder large-scale screening efforts [11] [12].

In Cameroon, the scientific literature on the knowledge, attitudes, and practices of healthcare professionals regarding breast cancer screening is limited. Understanding these factors is essential for designing targeted continuing education programs and more effective public health policies. It is within this context that we conducted this study at the Yaoundé Central Hospital (YCH), a reference hospital, with the aim of evaluating the KAP of healthcare staff concerning breast cancer screening.

## 2. Methodology

A prospective, descriptive cross-sectional study was conducted from September to October 2023 in various departments of the Yaoundé Central Hospital (YCH). The study population consisted of all medical and paramedical staff at the YCH.

### 2.1. Inclusion and Exclusion Criteria

- **Included** in the study were all healthcare professionals working at YCH who gave their informed consent.
- **Excluded** were all healthcare professionals who refused to participate in the study.

### 2.2. Data Collection

Data were collected using a self-administered, anonymous, standardized, and pre-tested questionnaire. It covered the following variables:

- **Sociodemographic characteristics:** age, gender, professional grade, marital status, religion.
- **Knowledge:** definition of breast cancer, existence and nature of risk factors, screening methods (mammography, ultrasound, breast self-examination) and their effectiveness.
- **Attitudes:** opinion on mortality reduction through screening, intention to recommend screening to patients and relatives.
- **Practices:** personal use of screening methods (for female staff), and their frequency (BSE and mammography).

### 2.3. Statistical Analysis

The collected data were entered into a database and analyzed with Epi Info version 3.5.4 software. Quantitative variables were expressed as means and standard deviations, and qualitative variables as percentages.

## 3. Results

### 3.1. Sociodemographic Characteristics

One hundred and five (105) healthcare professionals participated in the study. The mean age was 35.5 years. The population was predominantly female (71.8%) and mainly comprised State-certified nurses (55.1%). The details of the sociodemographic characteristics are presented in **Table 1**.

### 3.2. Knowledge of Breast Cancer and Screening

All participants (100%) had heard of breast cancer. The most frequently cited sources of information were training sessions (56.4%) and media (44.9%). Most participants (94.9%) recognized the existence of risk factors. Regarding the definition of the disease, a majority (33.3%) correctly defined it as a “malignant tumor,” but 32% did not respond, and others gave incomplete answers (see **Table 2**). Almost

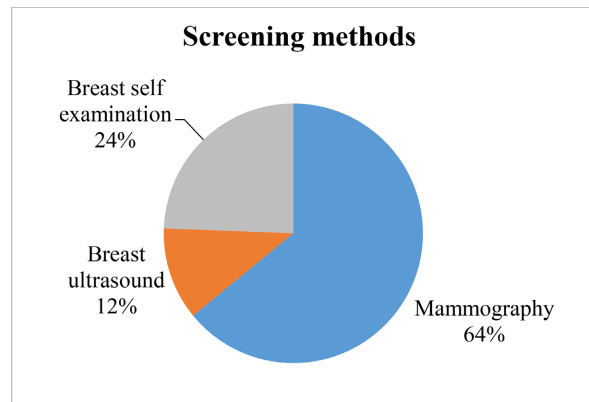
**Table 1.** Sociodemographic characteristics of healthcare professionals (n = 105).

Characteristic	Number (n)	Percentage (%)
<b>Gender</b>		
Male	29	28.2
Female	76	71.8
<b>Age group</b>		
20 - 29 years	34	26.9
30 - 39 years	53	50.0
40 - 49 years	9	11.5
50 - 60 years	9	11.5
<b>Professional grade</b>		
State-certified nurse	58	55.1
Paramedical technicians	12	15.4
General practitioners	12	15.4
Specialist physicians	8	6.4
Nurse assistants	9	5.1
Others (IBAs)	4	2.6
<b>Religion</b>		
Christian	92	92.3%
Muslim	13	7.7%
<b>Marital Status</b>		
Single	45	44.9%
Married	43	42.3%
Widowed	4	2.6%
Cohabiting	13	10.3%

**Table 2.** Definitions of breast cancer.

What is breast cancer?	Number	Percentage
Malignant tumor	46	33.3%
Cellular proliferation	17	21.8%
Chronic pathology	1	1.3%
Breast lump	3	3.8%
Breast mass	2	2.6%
Disease that affects breast cells	4	5.1%
No response	26	32%
Total	105	100%

all participants (98.7%) were aware of the existence of screening methods. **Figure 1** illustrates the screening methods recognized as effective. Mammography and breast self-examination (BSE) were the most commonly known methods, cited by 83.1% and 84.4% of professionals, respectively. However, only 64.9% considered mammography as the most effective method. The majority of participants (94.9%) acknowledged that early screening reduces breast cancer-related mortality.



**Figure 1.** Screening methods recognized as effective.

### 3.3. Attitudes and Screening Practices

Although the majority (94.9%) recognized the importance of screening for reducing mortality, only 11.5% of healthcare professionals stated that they systematically thought of recommending it to their patients. Regarding the methods recommended to patients, BSE was the most frequently advised (78.2%), followed by mammography (42.3%) and ultrasound (21.8%). As for the frequency of this advice, 43.6% recommended daily BSE, a frequency considered inappropriate. For mammography, 52.6% advised an annual examination, which is an excessive recommendation for standard screening and can expose patients to unnecessary radiation risks.

Less than half (48.7%) of the female staff ( $n = 76$ ) reported engaging in personal screening. The most used screening methods were breast self-examination (65.8%) and mammography (31.6%). The frequency of personal practice was also suboptimal: only 47.7% of women performed BSE monthly, and only 15.8% performed mammography at the recommended frequency (every two years), while 47.4% did so excessively (annually).

## 4. Discussion

Our study reveals that healthcare professionals at the Yaoundé Central Hospital have a good level of theoretical knowledge about breast cancer and its screening methods. This result is consistent with other studies conducted in hospital settings in Africa, such as in Nigeria and Burkina Faso [10] [11]. The high exposure to information through continuing education and media undoubtedly contributes to this high level of knowledge [13].

However, a significant gap was observed between this knowledge and actual attitudes and practices. First, despite recognizing the effectiveness of screening, a small proportion of professionals (11.5%) systematically integrates screening into their clinical practice. This lack of proactivity aligns with the conclusions of Sawadogo *et al.* in Burkina Faso [14] and could be linked to the absence of a national organized screening program in Cameroon. The National Cancer Control Program is the national body responsible for planning and coordinating cancer control in a country. It oversees the development of a strategic plan to eliminate the disease, as well as an operational plan to implement this control. It organizes the development of guidelines and standards for screening and treatment of the disease, and also ensures the implementation of an organized program for screening and treatment of the disease. In Cameroon, this organized screening program is not yet operational, and screening is carried out sporadically as part of health campaigns on major cancer awareness days.

Furthermore, knowledge about the frequency of screening methods is flawed. The recommendation for daily BSE and annual mammography, made by a portion of the staff, is an unadvised practice. Breast self-examination is recommended monthly, and biennial mammography is the standard for mass screening in most countries. An excessive frequency of mammography can lead to unnecessary radiation exposure and generate additional costs for patients. These incorrect attitudes indicate a need for continuing education and retraining for healthcare professionals [15].

Moreover, the personal screening practice rate among female healthcare professionals is low (48.7%). This is alarming and reflects a trend observed in other African studies [16] [17]. Literature shows that even with privileged access to information and care, many factors can explain this low adherence, including fear of diagnosis, the cost of examinations, lack of time, or stigmatization. Breast self-examination, although widely practiced, is not sufficient and does not replace a screening mammogram for at-risk women [18]. The low rate of mammography use for screening (31.6%) is explained by the same barriers as those reported in the general population: high cost, lack of equipment, and lack of national screening programs [19].

The discrepancy between knowing the importance of screening and having low personal practice highlights the existence of significant psychological and structural barriers, even for individuals who are supposed to be the best informed. It is therefore crucial to establish breast cancer screening programs for healthcare professionals themselves.

The main limitation of this study is its single-center nature and the small number of participants, which limits the generalizability of the results. Additionally, the data are self-reported, which may lead to social desirability bias (participants might overestimate their knowledge and practices).

## 5. Conclusion

Healthcare professionals at the Yaoundé Central Hospital possess a good level of

theoretical knowledge about breast cancer. However, significant gaps persist in their attitudes and screening practices, particularly concerning the frequency of examinations and their own use of mammography. It is imperative to integrate targeted and regular training sessions on the definition of breast cancer, importance of screening, correct screening frequencies, and strategies to improve patient communication for healthcare professionals. By improving their own practices, they will be better equipped to play their crucial role in raising awareness and guiding the population, which is essential to reduce breast cancer mortality in Cameroon.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

### References

- [1] Sung, H., Ferlay, J., Siegel, R.L., Laversanne, M., Soerjomataram, I., Jemal, A., *et al.* (2021) Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA: A Cancer Journal for Clinicians*, **71**, 209-249. <https://doi.org/10.3322/caac.21660>
- [2] World Health Organization (2021) Breast Cancer Factsheet.
- [3] GLOBOCAN (2020) Cancer Incidence and Mortality Worldwide. IARC CancerBase No. 15.
- [4] Jatoi, I. and Boffetta, P. (2010) Breast Cancer Screening. *BMJ*, **341**, c3605.
- [5] Essome, H., Essomba, A., Etame, T., *et al.* (2018) Breast Cancer Management in a Low-Resource Setting: A 10-Year Experience in Yaounde, Cameroon. *Journal of Cancer Research and Clinical Oncology*, **144**, 2061-2067.
- [6] National Cancer Institute (2011) NCI Dictionary of Cancer Terms. <https://www.cancer.gov/publications/dictionaries/cancer-terms>
- [7] Allemani, C., Matsuda, T., Di Carlo, V., Harewood, R., Matz, M., Nikšić, M., *et al.* (2018) Global Surveillance of Trends in Cancer Survival 2000-14 (CONCORD-3): Analysis of Individual Records for 37 513 025 Patients Diagnosed with One of 18 Cancers from 322 Population-Based Registries in 71 Countries. *The Lancet*, **391**, 1023-1075. [https://doi.org/10.1016/s0140-6736\(17\)33326-3](https://doi.org/10.1016/s0140-6736(17)33326-3)
- [8] Independent UK Panel on Breast Cancer Screening (2012) The Benefits and Harms of Breast Cancer Screening: An Independent Review. *The Lancet*, **380**, 1778-1786.
- [9] Okobia, M.N., Bunker, C.H., Okonofua, F.E. and Osime, U. (2006) Knowledge, Attitude and Practice of Nigerian Women Towards Breast Cancer: A Cross-Sectional Study. *World Journal of Surgical Oncology*, **4**, Article No. 11. <https://doi.org/10.1186/1477-7819-4-11>
- [10] Odusanya, O. and Tayo, O.O. (2001) Breast Cancer Knowledge, Attitudes and Practice among Nurses in Lagos, Nigeria. *Acta Oncologica*, **40**, 844-848. <https://doi.org/10.1080/02841860152703472>
- [11] Sawadogo, Y.A., *et al.* (2017) Connaissances, attitudes et pratiques des prestataires de santé des hôpitaux publics de la ville de ouagadougou relatives au cancer du sein au Burkina Faso. *Sciences de la Santé*, **39**, 15-25.
- [12] Kemfang, J.D., Bomono, L.F., Domgue, J.F., *et al.* (2015) Connaissances, attitudes et pratiques des personnels de la santé sur le cancer du sein à l'hôpital general de yaoundé. *Health Sciences and Disease*, **16**, 1-6.

- [13] Gnangnon, R.H.F., Aboubakar, M., Bodjrenou, E., Parenté, A., Preux, P., Denakpo, J.L., *et al.* (2023) Connaissances, attitudes et pratiques des médecins généralistes sur le cancer du sein dans le département du littoral en république du Bénin. *Revue d'Épidémiologie et de Santé Publique*, **71**, Article 102026.  
<https://doi.org/10.1016/j.respe.2023.102026>
- [14] The Cancer Society of New Zealand (2024) Information on Breast Cancer.
- [15] Bello, T.O., Olugbenga-Bello, A.I., Oguntola, A.S., *et al.* (2011) Knowledge and Practice of Breast Cancer Screening Among Female Nurses and Lay Women in Osogbo, Nigeria. *West African Journal of Medicine*, **30**, 296-300.
- [16] Al-Azri, M. and Al-Hamadani, A. (2018) Breast Cancer Screening Awareness and Practices among Female Health Professionals in Oman. *Oman Medical Journal*, **33**, 31-37.
- [17] Fayanju, O.M., Hyslop, T., Golob, J., *et al.* (2017) The Role of Race in the Outcome of Young Women with Breast Cancer. *Cancer*, **123**, 297-306.
- [18] American Cancer Society (2025) Breast Cancer Facts & Figures 2022-2024.
- [19] Ndom, P., Tochie, J.N., Aseh, A.N., *et al.* (2018) Cervical Cancer in Cameroon: The Need for a Comprehensive National Control Program. *Pan African Medical Journal*, **31**, Article 17.