

Knowledge, Attitudes and Practices of Healthcare Professionals Regarding Breast Cancer in the Municipality of Parakou (Benin) in 2024

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Abstract

Introduction: In Africa, breast cancer is the second most common cancer in women after cervical cancer. It is most often diagnosed at a late stage. **Objective:** To study the knowledge, attitudes and practices of healthcare professionals regarding breast cancer as well as the factors associated with it in the municipality of Parakou in 2024. **Site and Methods:** This was a cross-sectional study with analytical aims and prospective data collection, conducted from June 20, 2024 to August 20, 2024. It included healthcare professionals from the various health facilities in the municipality of Parakou. **Results:** A total of 130 healthcare professionals (doctors, midwives, state certified nurses) participated in the study. The most common source of information for healthcare professionals was university training (69.2%). More than half (77.7%) of the healthcare workers had not attended continuing training sessions on breast cancer. The majority of healthcare professionals (78.5%) had a poor overall level of knowledge about breast cancer. Among the healthcare professionals surveyed, only 6.2% had a correct attitude and 5.4% had adequate practices regarding breast cancer. A total of 51.5% of healthcare professionals had an acceptable KAP score, while 48.5% had a poor KAP score. Socio-professional category was the only factor significantly associated with the KAP score. Midwives had the best score. **Conclusion:** These results highlight the importance of continuing training for healthcare professionals, including paramedics. This will effectively improve the early diagnosis and management of this disease.

Keywords

Breast Cancer, Knowledge, Attitudes, Practices, Benin

1. Introduction

Cancers remain a significant public health problem worldwide. Approximately 20 million new cases of cancer were reported in 2022 according to GLOBOCAN 2022. In terms of prevalence and mortality, breast cancer and lung cancer were the most common cancers in women and men, respectively [1]. A recent study illustrated the profound impact of disproportionate cancer mortality among women: an estimated one million orphaned children were registered in 2020 because their mother died of cancer that year. Nearly half of these orphans were the result of maternal deaths from breast or cervical cancer [2]. Population projections indicate that cancer incidence worldwide will reach 35 million by 2050 [1].

In Africa, breast cancer is the second most common cancer in women after cervical cancer [3]. Numerous studies carried out on gynecological and breast cancers have shown that one of the characteristics of cancers in Africa is that patients are seen at advanced stages, which implies heavy, costly treatment, sometimes limited to palliative care [4].

In Benin, a West African country, the leading cancer in women in terms of incidence and mortality is breast cancer. More than 70% of patients are diagnosed at a late stage. Specifically, tumors were classified at AJCC (American Joint Committee on Cancer) stage III (42.3%), stage IV (21.9%), stage II (19.4%), and stage I (5.3%) at the time of diagnosis. In 2013, the 5-year survival rate for breast cancer was 43% in a hospital located in Cotonou [5]. A study conducted in 14 African countries, estimated 3-year survival at 19.3% in Zimbabwe, 44.1% in Mali, and 49.5% in Kenya [6].

Regarding the fight against breast cancer, the plan includes raising awareness of the importance of early detection, particularly through physical examinations carried out by healthcare professionals. Mammography is used primarily to establish a diagnosis and for the monitoring of women with a family history of this cancer. Thus, the cancer control plan gives an important place to front-line healthcare professionals. They are responsible for applying screening methods, motivating women to adhere to screening and monitoring cases with positive screening tests. They are also in charge of ensuring good coordination with cytology laboratories, mammography centers and cancer treatment facilities [7].

Recently, researchers have focused their attention on the knowledge, attitudes and practices of healthcare professionals regarding breast cancer. Studies conducted in low and middle-income countries, particularly in Tunisia [8], Pakistan [9] and Nigeria [10], show the importance of better knowledge of breast cancer by healthcare professionals to improve the management of this cancer. Studies conducted on the knowledge, attitudes and practices of healthcare professionals regarding breast cancer in Parakou (Benin) and Senegal had shown that the majority of healthcare professionals were insufficiently informed about breast cancer and the diagnostic methods [4] [11]. In northern BENIN, more precisely in Parakou,

few studies have been published on breast cancer. The need to assess the knowledge, attitudes and practices of health professionals regarding breast cancer in the city of Parakou motivated the choice of this topic.

2. Site and Study Methods

Our study took place in the public and private health facilities in Parakou, the largest city in northern BENIN.

This was a cross-sectional study with a descriptive and analytical aim. Prospective data collection was performed among health professionals from the various public and private health facilities in the municipality of Parakou.

Health professionals (doctors, midwives, state certified nurses) working in the selected health centers, participating in prenatal, general, postnatal, gynecological consultations or family planning activities and present on the sites on the survey days were included in our study. Professionals absent on the collection days, those who did not give their consent, as well as gynecologists (considered experts in the field) were excluded from the survey. This was an exhaustive census of all healthcare providers meeting the inclusion criteria.

The dependent variables were the knowledge, attitudes and practices of healthcare professionals regarding breast cancer. They were assessed using the model of Essi *et al.* [12]. The level of knowledge was classified into four categories (poor, insufficient, average and good):

- Less than 50% correct answers = poor
- Between 50% and 65% correct answers = Insufficient
- Between 65% and 85% correct answers = Average
- More than 85% correct answers = Good

In terms of attitude, the analysis focused on four criteria (correct, approximate, incorrect and harmful):

- Less than 50% correct answers = harmful
- Between 50% and 65% correct answers = incorrect
- Between 65% and 85% correct answers = approximate
- More than 85% correct answers = correct

Practices were classified into 3 levels (harmful, inadequate, adequate).

- Less than 50% correct answers = harmful
- Between 50% and 85% correct answers = inadequate
- More than 85% correct answers = adequate

An overall KAP score was calculated by averaging the knowledge, attitude, and practice scores. Three criteria were used to assess the overall KAP:

- Average score < 50% = poor KAP score
- Average score < 85% = acceptable KAP score
- Average score ≥ 85% = good KAP score

The independent variables of our study are related to:

- Sociodemographic information: age, sex, professional category, employment sector, level in the health services pyramid, seniority in the profession.

- Data related to the knowledge of healthcare professionals about breast cancer: definition, severity, frequency, risk factors, number of cases, suggestive signs, screening methods, methods that can be used for diagnosis, treatment methods, advances in the field.
- Data related to the attitudes of healthcare professionals regarding breast cancer: effectiveness or not of breast self-examination, effectiveness or not of clinical breast examination by a doctor, attitude towards a woman at risk, effectiveness or not of mammography, advice on self-examination, advice on mammography, advice on avoiding risk factors, perception of the organization of breast cancer screening in Benin.
- Practices of healthcare professionals: systematic practice of clinical breast examination and reasons for not doing so, time of teaching breast examination to patients, main difficulty in the management of tumor mass screening, practice regarding the request for mammography and personal practices of healthcare professionals regarding their own health or that of their partners.

A questionnaire was designed for data collection. The questionnaire was tested on a sample. It was then corrected and validated before the actual collection. The collection took place from June 20, 2024 to August 20, 2024 through a face-to-face interview between the interviewer and the interviewee.

The processing and analysis phase of the collected data was carried out according to a pre-defined analysis plan. The first step consisted of data validation. The completeness of the information collected and entered into Kobotoolbox platform was verified. Statistical analyses of the data were carried out using IBM SPSS Statistics 25 software. Observations are presented using frequency measures, including proportions or percentages for qualitative variables with 95% as confidence intervals. Quantitative data are presented using parameters such as the mean with standard deviation, the median as appropriate, the mode, and the extremes. In terms of hypothesis testing, the Chi2 test was used with an observation of the theoretical numbers for adjustments in the choice of the test. Thus, the links between variables are observed for a significance threshold set at 5%. The measure of association, namely the prevalence ratio, was calculated for the relevant associations.

This study received authorization from the Local Ethics Committee for Biomedical Research of the University of Parakou (No. 567/2024/CLERB-UP/P/SP/R/SA) before data collection. Anonymity and confidentiality of the data collected were respected. Free and informed verbal consent from the people surveyed before any administration of the questionnaire was required.

3. Results

Following our survey of healthcare professionals in the city of Parakou about their knowledge, attitudes, and practices regarding breast cancer, 154 of them were eligible for the study and 130 participated. The participation rate is therefore 84.42%.

Lack of time was the most common reason for non-participation.

3.1. Knowledge of Healthcare Professionals Regarding Breast Cancer

3.1.1. Information about Breast Cancer

All participants reported having heard about breast cancer. The most frequent source of information was university education (69.2%) (**Table 1**).

Table 1. Distribution of healthcare professionals surveyed on breast cancer based on data relating to information on breast cancer (Parakou, 2024).

	Frequency	Percentage
Having heard about breast cancer (n = 130)		
Yes	130	100.0
Source of information (n=130)		
Media	45	34.6
Health campaign	55	42.3
Collaborators	23	17.7
University education	90	69.2
Family members	14	10.8
Friends	11	8.5
Self-study	1	0.8
Conference	1	0.8
Hospital	1	0.8

3.1.2. Continuing Training

Most participants had not attended a continuing training session on breast cancer (77.7%), while only 22.3% had.

3.1.3. Definition and Description of Breast Cancer

The majority of participants (90.8%) defined breast cancer as a malignant tumor. However, 16.9% thought it was a benign tumor, indicating some confusion among this group. Furthermore, 6.9% of healthcare professionals defined breast cancer as inflammation.

The majority of participants (86.2%) identified breast cancer as a malignant condition characterized by symptoms such as dimpling skin, breast discharge, the presence of a lump and nipple retraction.

3.1.4. Risk Factors for Breast Cancer

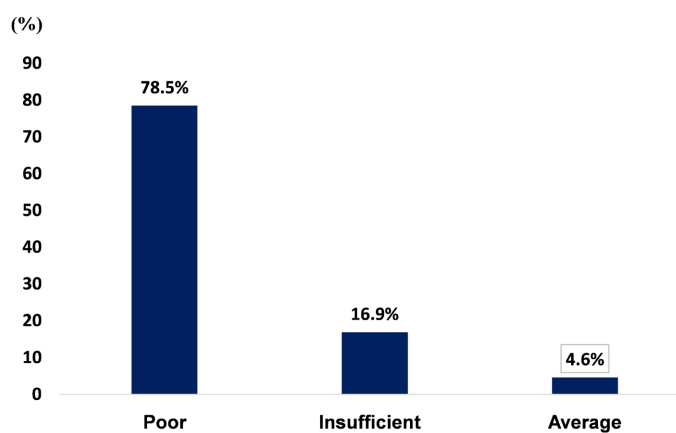
The majority of respondents (80.8%) identified family history of breast cancer as a major risk factor. Smoking and alcohol consumption were also recognized by 58.5% and 50% of healthcare professionals, respectively (**Table 2**).

Table 2. Distribution of healthcare professionals surveyed on breast cancer according to the notions of known risk factors (Parakou, 2024) n = 130.

	Frequency	Percentage
Family history of breast cancer	105	80.8
Smoking	76	58.5
Alcohol consumption	65	50.0
Hormone replacement therapy for menopause	57	43.8
Age	56	43.1
Lack of breastfeeding	55	42.3
Genetic predisposition	52	40.0
Age at first pregnancy \geq 35 years	41	31.5
Nulliparity	41	31.5
Obesity	37	28.5
Early age of first menstruation (\leq 12 years)	33	25.4
Benign mastopathy	28	21.5
Late menopause (Age \geq 55 years)	27	20.8
Irradiation	26	20.0
Human papilloma virus (HPV)	25	19.2
Multiparity	21	16.2
Aluminum salts-based antiperspirants or deodorants	16	12.3
Endometrial cancer	13	10.0
Herpes simplex virus (HSV)	10	7.7
Colon cancer	6	4.6
Extended breastfeeding	5	3.8

3.1.5. Overall Knowledge of Health Professionals Regarding Breast Cancer

The majority of healthcare professionals (78.5%) had a poor level of overall knowledge about breast cancer. A proportion of 16.9% had an insufficient level of knowledge and only 4.6% of them had an average level of knowledge about breast cancer (**Figure 1**).

**Figure 1.** Distribution of healthcare professionals surveyed according to their level of overall knowledge about breast cancer (Parakou, 2024).

3.2. Attitudes of Healthcare Professionals Regarding Breast Cancer

3.2.1. Advice on Breast Self-Examination (BSE), Mammography Prescription and Screening in Benin

Regarding advice on self-examination, 61.5% of healthcare professionals always recommended this practice to patients, while 36.2% did so sometimes. Prescribing mammography for women over 50 years of age was less systematic: only 13.8% always did so. In terms of the organization of breast cancer screening in Benin, 50% of healthcare professionals considered it well organized. It was poorly organized according to 26.2% of them. Discussions about risk factors with patients were always practiced by 28.5% of respondents. Finally, advice for an annual examination by a doctor was always given by 37.7% of participants, sometimes by 35.4%, rarely by 22.3%, and never by 4.6% (**Table 3**).

Table 3. Distribution of healthcare professionals surveyed on breast cancer according to attitudes towards the disease, BSE, CBE, mammography, screening in Benin and risk factors.

	Frequency	Percentage
Nature of the disease (n = 130)		
Severe	128	98.5
Not severe	2	1.5
Advice on self-examination for patients (n = 130)		
Always	80	61.5
Sometimes	47	36.2
Rarely	3	2.3
Prescription of mammography to women over 50 years of age (n = 130)		
Sometimes	44	33.8
Rarely	37	28.5
Never	31	23.8
Always	18	13.8
Breast cancer screening in Benin (n = 130)		
Well organized	65	50.0
Poorly organized	34	26.2
Unknown	28	21.5
Non-existent	3	2.3
Discussion about risk factors with patients (n = 130)		
Sometimes	74	56.9
Always	37	28.5
Rarely	15	11.5
Never	4	3.1
Advice to patients on annual exam by the physician (n = 130)		
Always	49	37.7
Sometimes	46	35.4
Rarely	29	22.3
Never	6	4.6

3.2.2. Overall Attitude of Healthcare Professionals Regarding Breast Cancer

Nearly half of the healthcare professionals (44.6%) had an approximate approach, while 39.2% of them had an incorrect attitude. Ten percent (10%) of healthcare professionals had a harmful attitude and only 6.2% had a correct attitude regarding breast cancer (Figure 2).

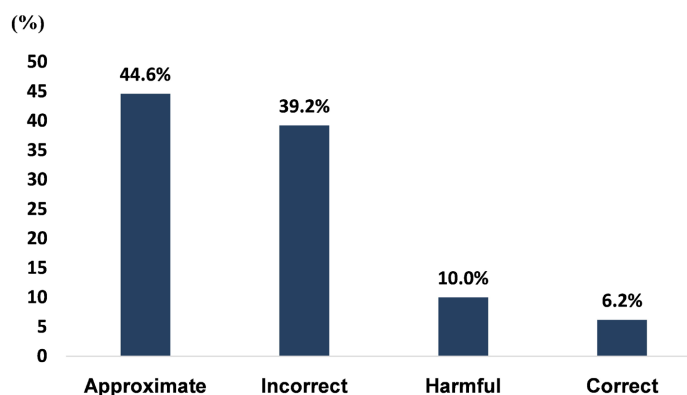


Figure 2. Distribution of healthcare professionals according to their level of attitude regarding breast cancer (Parakou, 2024).

3.3. Practice of Healthcare Professionals Regarding Breast Cancer

Table 4. Distribution of healthcare professionals surveyed on breast cancer according to the number of cases encountered per year and the practices during training and consultations.

	Frequency	Percentage
Average number of breast cancer cases encountered per year (n = 130)		
1 to 3	71	54.6
None	31	23.8
Unknown	19	14.6
4 to 6	6	4.6
Greater than or equal to 7	3	2.3
Breast examination during initial or continuing training (n = 130)		
Yes	120	92.3
No	10	7.7
Opportunity to perform breast cancer screening on patients (n = 130)		
Yes	108	83.1
No	22	16.9
Circumstance (n = 108)		
Breast clinical examination	99	91.7
Mammography	9	8.3

On average, 54.6% of healthcare professionals had 1 to 3 cases of breast cancer per year. In terms of education, 92.3% of healthcare professionals received a training on breast examination. Eighty-three-point one percent (83.1%) of healthcare pro-

professionals had the opportunity to perform breast cancer screening on patients. The most common means used by these workers to perform breast cancer screening was clinical breast examination (91.7%), while mammography was less frequently performed (8.3%) (Table 4).

3.3.1. Global Practice of Healthcare Professionals in Terms of Breast Cancer

Among the healthcare professionals surveyed, only 5.4% had adequate practices regarding breast cancer. The practices observed were inadequate in almost half (49.2%) of the healthcare professionals surveyed, while 45.4% had harmful practices (Figure 3).

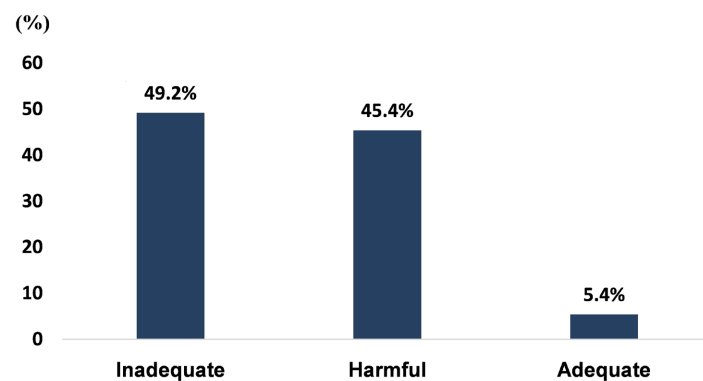


Figure 3. Distribution of healthcare professionals according to their level of practice regarding breast cancer (Parakou, 2024).

3.3.2. Overall Knowledge, Attitude and Practice Score

The overall KAP score showed that 51.5% of healthcare professionals had an acceptable score, while 48.5% had a poor KAP score (Figure 4).

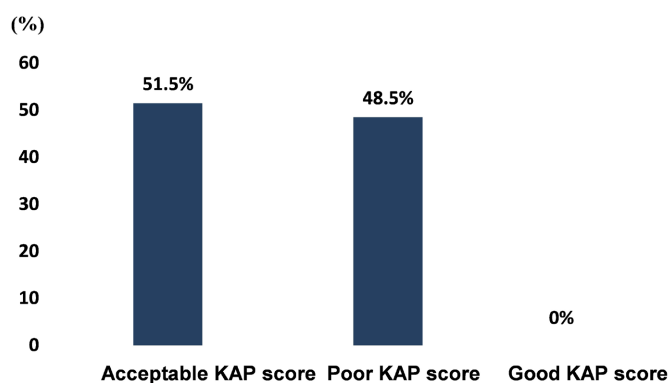


Figure 4. Distribution of healthcare professionals surveyed according to the KAP score regarding breast cancer in the municipality of Parakou in 2024.

3.4. Relationship between the Overall KAP Score of Healthcare Professionals and Their Age, Seniority, Professional Category, Sector of Employment, Level in the Health Services Pyramid and Continuing Training

The differences between the age of the respondents, seniority in the profession,

level in the health services pyramid, employment sector, continuing training and the overall KAP score of the healthcare professionals surveyed were not significant. On the other hand, the socio-professional category had a statistically significant influence on the KAP scores (P-value = 0.012). Midwives were the best performers, with 66.7% achieving an acceptable KAP score, while 44.4% of nurses and 37.5% of general practitioners achieved this score (**Table 5**).

Table 5. Relationship between the characteristics of healthcare professionals and the overall score of knowledge, attitudes and practices regarding breast cancer in the municipality of Parakou in 2024.

	Overall KAP score				N	P-value
	Poor score		Acceptable score			
	N	%	n	%		
Age						
[20 - 30[	37	52.9	33	47.1	70	0.215
[30 - 40[	21	47.7	23	52.3	44	
[40 - 50[	4	26.7	11	73.3	15	
[50 - 60[	1	100.0	0	0.0	1	
Seniority in the profession						
[1 - 10]	56	50.9	54	49.1	110	0.314
[11 - 20]	6	40.0	9	60.0	15	
[21 - 30]	1	20.0	4	80.0	5	
Socio-professional category						
Nurses	20	55.6	16	44.4	36	0.012
General practitioner	25	62.5	15	37.5	40	
Midwife	18	33.3	36	66.7	54	
Employment sector						
Private	45	48.9	47	51.1	92	0.873
Public	18	47.4	20	52.6	38	
Level in the health services pyramid						
Intermediate level	9	52.9	8	47.1	17	0.692
Peripheral level	54	47.8	59	52.2	113	
Continuing training on breast cancer						
No	49	48.5	52	51.5	101	0.982
Yes	14	48.3	15	51.7	29	

4. Discussion

4.1. Overall Knowledge of Healthcare Professionals Regarding Breast Cancer

The overall level of knowledge was poor among the majority of healthcare profes-

sionals (78.5%); 16.9% had an insufficient level of knowledge and 4.6% had an average level of knowledge. This result is close to that of Zine who reported that the majority of general practitioners were not sufficiently informed about breast cancer in 2016 in Morocco [13]. Obossou showed through his study that the knowledge of risk factors, suggestive signs, diagnostic methods and therapeutic methods of breast cancer by the healthcare professionals surveyed was worse in Parakou in 2025 [11]. On the other hand, Kemfang *et al.* found that the level of knowledge of healthcare professionals at the General Hospital in Yaounde regarding breast cancer was good [14]. This difference could be explained by the fact that the study population of Obossou and Kemfang included in addition to nurses, midwives and general practitioners as in our study, the specialists or resident doctors whose training and knowledge are reinforced. Gnangnon *et al.* in Cotonou (Benin) reported that 72.8% of general practitioners had an average knowledge score on breast cancer, 13.1% had a low level of knowledge and only 14.1% had a high level of knowledge [15]. This highlights the importance of strengthening the skills of healthcare professionals in the municipality of Parakou regarding the description, risk factors, suggestive signs, as well as screening and treatment methods for breast cancer. It is indeed essential for them to be well informed about breast cancer. They can exert a significant influence in convincing women to be diagnosed earlier in order to improve the prognosis of this pathology [3].

4.2. Overall Attitude of Healthcare Professionals Regarding Breast Cancer

Among the healthcare professionals, 44.6% of them had an approximate attitude regarding breast cancer, while 39.2% of them had an incorrect attitude. A rate of 10% of healthcare professionals had a harmful attitude and only 6.2% had a correct attitude. On the other hand, Gnangnon *et al.* had reported in 2022 that 42.4% of doctors had a good attitude, 37% had an average attitude score and 20.6% had a low attitude score [15].

4.3. Global Practice of Healthcare Professionals Regarding Breast Cancer

In the healthcare professionals surveyed, only 5.4% had adequate practices regarding breast cancer. The practices observed were inadequate in almost half (49.2%) of the healthcare professionals surveyed while 45.4% of them had harmful practices. According to a study of Gnangnon *et al.* in Cotonou in 2022, 60.9% of general practitioners had a high practice score; 35.9% had an average practice score while only 3.3% had a low practice score [15].

4.4. Overall KAP Score

Our study showed that just over half of the healthcare professionals in the city of Parakou in 2024 (51.5%) had an acceptable overall KAP score, while 48.5% had a poor KAP score. On the other hand, none of the healthcare professionals in the municipality of Parakou in 2024 had a good KAP score. According to Obossou in

Parakou in 2015, more than half (64.05%) of the healthcare professionals had a poor KAP score [11]. Gnangnon *et al.* reported that only 6.5% of general practitioners had a low KAP score and the majority of them (77.2%) had an average KAP score [15]. These results could be explained by the fact that only general practitioners were included in the study of Gnangnon *et al.* The socio-professional category in our study had a statistically significant influence on the overall KAP score (P-value = 0.012). Midwives had a better KAP score than nurses and general practitioners. In the study carried out in Cotonou in 2022, 16.3% of general practitioners had a high KAP score [15]. These results reveal the deficiency in the knowledge, attitudes and practices of general practitioners regarding breast cancer. According to Obossou *et al.* in 2015, the socio-professional category had a statistically significant influence on the KAP score. His study showed that gynecologists, general practitioners and midwives had a better KAP score than nurses [11].

5. Conclusion

The knowledge of breast cancer among healthcare professionals in the municipality of Parakou in 2024 is insufficient. Furthermore, few healthcare professionals had an appropriate attitude and adequate practices regarding breast cancer. Half of the participants had an acceptable overall KAP score. These gaps in knowledge, attitudes and practices among healthcare professionals contribute to the late detection of advanced forms of the disease. Continuing training is essential to update these healthcare professionals.

Conflicts of Interest

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

References

- [1] Bray, F., Laversanne, M., Sung, H., Ferlay, J., Siegel, R.L., Soerjomataram, I., *et al.* (2024) Global Cancer Statistics 2022: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA: A Cancer Journal for Clinicians*, **74**, 229-263. <https://doi.org/10.3322/caac.21834>
- [2] Guida, F., Kidman, R., Ferlay, J., Schüz, J., Soerjomataram, I., Kithaka, B., *et al.* (2022) Global and Regional Estimates of Orphans Attributed to Maternal Cancer Mortality in 2020. *Nature Medicine*, **28**, 2563-2572. <https://doi.org/10.1038/s41591-022-02109-2>
- [3] Mamane, A., Bhatti, J.A., Savès, M., Alioum, A., Jutand, M., Hadiza-Jackou, D., *et al.* (2012) La prise en charge du cancer du sein au Niger: Connaissances, attitudes et pratiques des professionnels de santé non médecins de Niamey, Niger, 2010. *Journal Africain du Cancer/ African Journal of Cancer*, **4**, 156-163. <https://doi.org/10.1007/s12558-012-0210-4>
- [4] Thiam, O., Gueye, L., Gassamao, O., Diallo, W.M., Sow, D.B., Sarr, S.C.T., *et al.* (2021) Enquête sur les connaissances, attitudes et pratiques des prestataires de Saint Louis sur le cancer du sein. *Annales de la Soggo*, **14**, 48-52.
- [5] Tonato Bagnan, J.A., Denakpo, J.L., Aguida, B., Hounkpatin, L., Lokossou, A., De

- Souza, J., *et al.* (2013) Épidémiologie des cancers gynécologiques et mammaires à l'hôpital de la Mère et de l'Enfant-Lagune (HOMEL) et à la clinique universitaire de gynécologie et d'obstétrique (CUGO) de Cotonou, Bénin. *Bulletin du Cancer*, **100**, 141-146. <https://doi.org/10.1684/bdc.2013.1702>
- [6] Joko-Fru, W.Y., Miranda-Filho, A., Soerjomataram, I., Egue, M., Akele-Akpo, M., N'da, G., *et al.* (2019) Breast Cancer Survival in Sub-Saharan Africa by Age, Stage at Diagnosis and Human Development Index: A Population-Based Registry Study. *International Journal of Cancer*, **146**, 1208-1218. <https://doi.org/10.1002/ijc.32406>
- [7] Hsairi, M., Ben Gobrane, H., Ben Alaya, N., Bellaaj, R. and Achour, N. (2007) Connaissances et attitudes des étudiants en fin d'études médicales vis-à-vis des dépistages des cancers du col utérin et du sein. *Santé Publique*, **19**, 119-132. <https://doi.org/10.3917/spub.072.0119>
- [8] Gallas, S., Debbabi Tabka, F. and Ben Dhiab, M. (2017) Connaissances, attitudes et pratiques des infirmiers en matière de dépistage du cancer du sein dans la région de Sousse en Tunisie: Étude descriptive transversale. *Revue Francophone Internationale de Recherche Infirmière*, **3**, 219-226. <https://doi.org/10.1016/j.refiri.2017.07.006>
- [9] Odusanya, O.O. and Fmcph (2001) Breast Cancer: Knowledge, Attitudes, and Practices of Female Schoolteachers in Lagos, Nigeria. *The Breast Journal*, **7**, 171-175. <https://doi.org/10.1046/j.1524-4741.1998.410062.x-i1>
- [10] Ibrahim, N.A. and Odusanya, O.O. (2009) Knowledge of Risk Factors, Beliefs and Practices of Female Healthcare Professionals Towards Breast Cancer in a Tertiary Institution in Lagos, Nigeria. *BMC Cancer*, **9**, Article No. 76. <https://doi.org/10.1186/1471-2407-9-76>
- [11] Obossou, A., Salifou, K., Hounkponou, A.F., Sidi, R.I., Vodouhe, M., Garba Say, A.B., *et al.* (2017) Knowledge, Attitudes and Practices of Health Care Professionals as Regards Breast Cancer in the Municipality of Parakou (Benin) in 2015. *Reproductive System & Sexual Disorders: Current Research*, **6**, Article ID: 1000216.
- [12] Essi Marie, J. and Njoya, O. (2013) L'Enquête CAP (Connaissances, Attitudes, Pratiques) en Recherche Médicale. *Health Sciences and Disease*, **14**, 1-3.
- [13] Zine, K., Nani, S., Lahmadi, I.A. and Maaroufi, A. (2016) Connaissances des médecins généralistes de Mohammedia (Maroc) concernant le dépistage du cancer du sein. *Pan African Medical Journal*, **24**, Article 243. <https://doi.org/10.11604/pamj.2016.24.243.9627>
- [14] Abda, N., Najdi, A., Fakir, S.E., Tachfouti, N., Berraho, M., Khazraji, Y.C., *et al.* (2017) Knowledge, Attitudes, and Preventive Practice Towards Breast Cancer among General Practitioner Health Professionals in Morocco. *Asian Pacific Journal of Cancer Prevention*, **18**, 963-968.
- [15] Gnanngnon, 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 ID: 102026. <https://doi.org/10.1016/j.respe.2023.102026>