

# Knowledge, Attitudes and Practices of Women on Preventive Measures against Breast and Cervical Cancer in the Health District of Mbankomo, Cameroon

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## Abstract

**Introduction:** Breast and cervical cancer are real public health problems in Cameroon. Primary and secondary preventive measures remain the main means of the fight against cancer. This study aimed at evaluating women's knowledge, attitudes and practices regarding preventive measures against breast and cervical cancer. A cross-sectional study was conducted in the Mbankomo Health District in Cameroon for 5 months (From March to August 2023). Data was collected using a questionnaire administered during an interview with consenting women. Statistical analysis was performed using SPSS Version 26 software. Differences were considered statistically significant for values of  $p < 0.05$ . **Results:** A total of 325 women participated in this study. More than half of the participants were aged between 21 and 30 (60.9%), singles (52.9%) and had at least one child (53.2%). The level of knowledge was poor in 46.76% of participants. Attitudes were approximative for 34.15% of them and related to their perception of not being at risk of cancer. Only 13.23% of women had adequate practices, with 4.2% vaccinated against the human papillomavirus and 17.8% having undergone breast cancer screening. There was a significant association between a low level of education and a poor level of knowledge [OR: 4.72; 95% CI: 2.82 - 7.89; P-value  $< 0.001$ ], attitudes [OR: 1.94; 95% CI: 1.15 - 3.28; P-value = 0.012], and practices [OR: 6.76; 95% CI: 3.29 - 13.86 P-value  $< 0.001$ ]. Harmful practices were associated with poor knowledge [OR: 3.47; 95% CI: 1.59 - 7.55; P-value = 0.002], and harmful attitude [OR: 56.20; 95% CI: 13.17 - 239.66; P-value  $< 0.001$ ]. **Conclusion:**

knowledge was correlated with attitudes and practices. It would be advisable to raise awareness of breast and cervical cancer prevention, targeting all women and youths, particularly in the current context where cancers are increasingly occurring in young people.

## **Keywords**

Knowledge, Attitudes and Practices, Prevention, Breast Cancer, Cervical Cancer

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## **1. Introduction**

Breast and cervical cancers particularly affect low and middle-income countries [1]. In sub-Saharan Africa, 129,400 cases of breast cancer and 110,300 cases of cervical cancer are reported yearly. A woman in this region has a 1 to 4% chance of developing breast cancer and a 3 to 5% chance of developing cervical cancer before the age of 75 [2]. In Cameroon, these cancers are also the most deadly, with 20,108 deaths from breast cancer and 1787 from cervical cancer in 2020, all women [3]. The increase in the incidence of cancer in Africa is reported to be a result of changes in lifestyle, failure to take preventive measures and delays in diagnosis [4]. Given the limited resources available in terms of technical facilities, the high cost of targeted therapies and the shortage of oncology specialists in the country [4], primary and secondary preventive measures remain the main means of the fight against cancer. To this end, the World Health Organization (WHO) has drawn up recommendations for the prevention of breast and cervical cancer by the healthcare system and by women, depending on the priorities and resources of each country [5] [6]. Preventive measures for women against breast cancer (BC) include seeking care (screening by mammography or breast ultrasound), breast self-examination and continued breastfeeding [5]. For cervical cancer (CC), this involves vaccination against the Human Papilloma Virus (HPV) for boys and girls aged from 9 to 13, and cervical cancer screening at least once for women aged from 30 to 49 [6]. Women are therefore key players in the prevention of breast and cervical cancer. As a result, their adherence to the proposed interventions guarantees their success. Knowing that the practice of these preventive measures is correlated with favorable attitudes and a good level of knowledge, this study focuses on women's knowledge, attitudes and practices regarding preventive measures against breast and cervical cancers in a health district in Cameroon.

## **2. Methodology**

### **2.1. Study Procedures, Participants and Data Collection**

A cross-sectional study lasted 5 months (from March to August 2023) and was conducted in the Mbankomo health district located on the outskirts of Yaoundé,

in the Center Region of Cameroon. It comprises 05 health areas (Mbankomo, Binguela, Ebeba, Mefomo, Ntuessong) and has a population of 56,581 inhabitants [7]. It was conducted in ten randomly selected localities, two in each health area. All women aged 21 and over who consented to participate in the study were eligible. The sample size was obtained using the statistical formula given below [8]. The prevalence taken into account was 30%, which represented the proportion of women's overall knowledge of breast cancer screening in a previous study conducted in the town of Maroua in the Far North of Cameroon [9].

$$Z^2 P(1-P)/d^2$$

A minimum size of 323 women was found.

After obtaining ethical clearance “CE N° 00254/CRERSH/2023” from the Center Regional Ethics Committee for Human Health Research, the questionnaire was pre-tested, re-adjusted and then administered by means of the face-to-face interview method. Information on the socio-demographic characteristics and the knowledge, attitudes and practices of the women was collected. The evaluation of the level of knowledge, attitudes and practices followed the outline of a KAP (Knowledge, Attitudes, and Practices) survey [10]. For the scoring of the KAP sections, each question answered correctly had a score of one (1) and wrong answers or “*I don't know*” answers had a score of zero (0).

## 2.2. Statistical Analysis

The data was analyzed using SPSS Version 26 (Statistical Package for the Social Sciences) software. Variables were expressed as frequencies. ANOVA (F-test) was used to compare the means. Binary logistic regression analysis was done to identify independent associated factors contributing to poor KAP. Differences were considered statistically significant for values of  $p < 0.05$ .

## 3. Results

A total of 325 women were recruited. More than half of the participants were aged between 21 and 30 (60.9%), singles (52.9%) and had at least one child (53.2%) (Table 1).

**Table 1.** Socio-demographic characteristics.

		Age	
		Frequency	%
Age	21 - 30	198	60.9
	31 - 40	73	22.5
	41 - 50	13	4.0
	51 - 60	22	6.8
	61 - 70 and over	19	5.8
	Total	325	100

## Continued

		Number of children	
Number of children	No	152	46.8
	Only one child	69	21.2
	2 or more children	104	32.0
	Total	325	100
		Marital status	
Marital status	Single	172	52.9
	Married	132	40.6
	Divorced	4	1.2
	Widow	17	5.2
	Total	325	100
		Level of study	
Level of study	Not enrolled	34	10.5
	Primary level	95	29.2
	Secondary level	131	40.3
	University level	65	20.0
	Total	325	100

In all, 87.39% of women (N = 284) had heard of breast or cervical cancer, N = 31 study participants had never heard of breast cancer and N = 45 participants had never heard of cervical cancer. The most frequently cited sources of information were the media (51.05%) and health facilities (41.90%). For both cancers, the most frequently cited risk factors were exposure to radio waves and radiation (48.2%) and taking hormones (47.1%) (Table 2). Specifically, 77.8% of participants (N = 253) were aware of breast cancer; and in terms of risk factors, 34.9% cited heredity, 28.9% old age and 24.1% obesity. Cervical cancer was known to 73.5% (N = 239) of participants, and the risk factors mentioned were sexually transmitted diseases (STDs) (58.15%) and the human immunodeficiency virus (HIV) (49 %).

**Table 2.** Knowledge of common risk factors for breast and cervical cancer.

Knowledge of common risk factors for breast and cervical cancer		Frequency	%
Alcohol abuse	Yes	114	40.1
	No	53	18.7
	I don't know	117	41.2
	Total	284	100
Tobacco	Yes	119	41.9
	No	46	16.2
	I don't know	119	41.9
	Total	284	100

## Continued

Taking prolonging hormone	Yes	134	47.2
	No	21	7.4
	I don't know	129	45.4
	Total	284	100
Wave exposure and radiation	Yes	137	48.2
	No	14	4.9
	I don't know	133	46.9
	Total	284	100

Of the 284 women aware of the two cancers, 70.8% said they could be prevented. The most frequently cited preventive measures were screening (77.6%) and regular physical exercise (52.2%) (Table 3). As a means of prevention specific to breast cancer, 64.7% of participants cited prolonged breastfeeding and 65.9% breast self-examination. In terms of cervical cancer prevention, 51.9% of women cited abstinence and 52.6% a single sexual partner, but only 19.9% used condoms during sex (Table 4).

**Table 3.** Knowledge of preventive measures common to breast and cervical cancers.

Knowledge of preventive measures common to breast and cervical cancers		Frequency	%
Breast and cervical cancer can be prevented	Yes	201	70.8
	No	28	9.9
	I don't know	55	19.3
	Total	284	100
Physical exercise	Yes	105	52.2
	No	49	24.4
	I don't know	47	23.4
	Total	201	100
Screening	Yes	156	77.6
	No	14	7
	I don't know	31	15.4
	Total	201	100

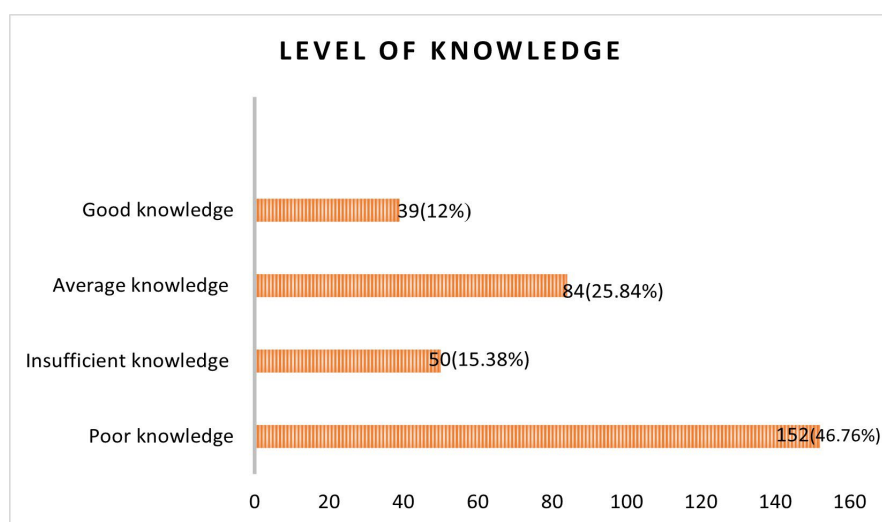
**Table 4.** Knowledge of preventive measures against breast and cervical cancers.

Knowledge of preventive measures against breast and cervical cancers		Frequency	%
Knowledge of preventive measures against breast			
Go to prolong breast	Yes	110	64.7
	No	40	23.5
	I don't know	20	11.8
	Total	170	100

## Continued

	Yes	112	65.9
	No	46	27.1
Self-examination	I don't know	12	7
	Total	170	100
Knowledge of preventive measures against cervical cancer			
	Yes	31	19.9
	No	56	35.9
Wearing a condom	I don't know	69	44.2
	Total	156	100
	Yes	81	51.9
	No	43	27.6
Abstinence	I don't know	32	20.5
	Total	156	100
	Yes	82	52.6
	No	59	37.8
Faithful for a person	I don't know	15	9.6
	Total	156	100
	Yes	75	48.1
	No	25	16
HPV vaccine	I don't know	56	35.9
	Total	156	100

In terms of knowledge of measures to prevent breast and cervical, only 12% of women had a good level of knowledge and 46.76% had a poor level (**Figure 1**).



**Figure 1.** Knowledge of measures to prevent breast and cervical cancer among women in the Mbankomo health district.

Women in the 21 - 30 age group reported higher levels of knowledge and practice ( $p = 0.041$  and  $0.037$ ) compared to older women. University education was reported to have a higher level of knowledge ( $P = 0.024$ ). Women who had never given birth had a high level of practice compared with those who had at least one child ( $P < 0.001$ ), therefore, women with one child had a better attitude ( $P < 0.001$ ) (Table 5).

Binary logistic regression showed a significant association between a low level of education and a poor level of knowledge [OR: 4.72; 95% CI: 2.82 - 7.89; P-value  $< 0.001$ ], attitudes [OR: 1.94; 95% CI: 1.15 - 3.28; P-value = 0.012], and practices [OR: 6.76; 95% CI: 3.29 - 13.86; P-value  $< 0.001$ ]. An association was also found between poor knowledge [OR: 4.69; 95% CI: 2.48 - 8.87; P-value  $< 0.001$ ], harmful practices [OR: 5.10; 95% CI: 2.59 - 10.04, P-value  $< 0.001$ ] and an age greater than 40 years. Harmful practices were associated with poor knowledge [OR: 3.47; 95% CI: 1.59 - 7.55; P-value = 0.002], harmful attitude [OR: 56.20; 95% CI: 13.17 - 239.66; P-value  $< 0.001$ ].

**Table 5.** Distribution of studied participants' demographics data regarding scores of knowledge, attitude and practice towards breast and cervical cancers prevention.

Socio-demographic characteristics		Knowledge		Attitude		Practice	
		Means $\pm$ SD	P-value	Means $\pm$ SD	P-value	Means $\pm$ SD	P-value
Age	[age = 21 - 30]	48.51 $\pm$ 23.71	4.23 0.041	57.12 $\pm$ 19.58	1.19 0.274	51.77 $\pm$ 16.47	4.40 0.037
	[age = 31 - 40]	37.93 $\pm$ 21.43		43.85 $\pm$ 21.63		42.85 $\pm$ 14.17	
	>40	30.00 $\pm$ 20.03	52.631 $\pm$ 16.40	44.64 $\pm$ 12.35			
Level of study	None-primary	32.50 $\pm$ 21.53	0.87 0.024	54.16 $\pm$ 19.61	3.83 0.051	46.05 $\pm$ 14.76	0.33 0.565
	Secondary	43.44 $\pm$ 20.63		48.21 $\pm$ 20.51		47.60 $\pm$ 16.62	
	University	61.82 $\pm$ 21.83	63.49 $\pm$ 17.37	55.78 $\pm$ 14.61			
Marital status	Single	48.92 $\pm$ 23.11	0.19 0.657	54.69 $\pm$ 21.17	2.28 0.132	49.34 $\pm$ 17.18	0.629 0.428
	married	37.31 $\pm$ 23.40		51.67 $\pm$ 18.98		48.83 $\pm$ 14.03	
	Divorce-Widow	33.18 $\pm$ 16.47	56.93 $\pm$ 21.54	42.85 $\pm$ 15.64			
Number of children	No children	49.9 $\pm$ 24.75	3.06 0.081	52.74 $\pm$ 22.86	22.44 $< 0.001$	51.45 $\pm$ 18.15	12.19 0.001
	Only one child	41.23 $\pm$ 18.60		55.78 $\pm$ 14.46		47.36 $\pm$ 10.14	
	2 or more children	35.60 $\pm$ 22.92	53.33 $\pm$ 19.99	46.50 $\pm$ 13.25			

Concerning women's attitudes to the prevention of breast and cervical cancer, a desire for more information about these diseases was expressed by 97% of participants, particularly on prevention (83.2%), causes (63.9%) and symptoms (60.7%).

However, when it came to breast screening, 53.8% of participants had never intended to do it, 72.3% were afraid of a bad result, 28% of participants said they didn't need it, 36.8% didn't find it accessible, 36% found it embarrassing, 21.3% of women said they were too busy to do it and 35.6% thought they were too

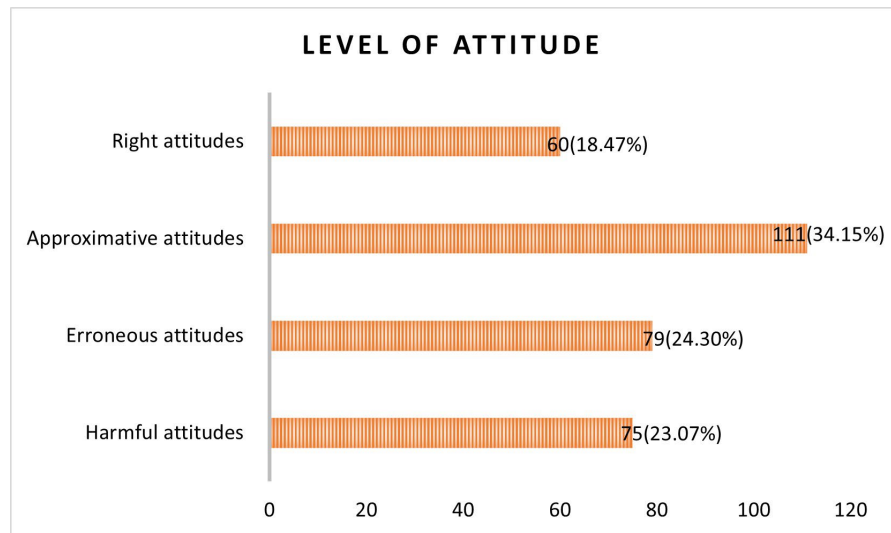
young. The perception of not being at risk of breast cancer was reported by 57.3% of participants and 12.6 % said they were against breast self-examination (**Table 6**).

Concerning cervical cancer, the perception of not being at risk was reported by 55.7% of participants. Concerning cervical cancer screening, 58.6% of participants never intended to have it done, 72% were afraid of a bad result, 30.1% did not think they needed it, 51% of participants did not find it accessible, 20% said they were too busy to do it and 38.5% thought they were too young to do it. The HPV vaccine was disapproved of by 2.92% of participants.

**Table 6.** Women's perception of breast and cervical cancer prevention measures.

Women's perception of preventive measures		Breast cancer		Cervical cancer	
		Frequency	%	Frequency	%
Intended to undergo screening	Yes	117	46.2	99	41.4
	No	136	53.8	140	58.6
	Total	253	100	239	100
Believes to be at risk	Yes	145	48.7	133	44.3
	No	108	57.3	106	55.7
	Total	253	100	239	100
Thinks it needs screening	Yes	182	72	167	69.9
	No	71	28	72	30.1
	Total	253	100	239	100
Thinks that screening is accessible	Yes	160	63.2	117	49
	No	93	36.8	122	51
	Total	253	100	239	100
Thinks screening is embarrassing	Yes	91	36	97	40.6
	No	162	64	142	59.4
	Total	253	100	239	100
Are afraid of a bad result	Yes	183	72.3	172	72
	No	70	27.7	67	28
	Total	253	100	239	100
Think you're busy with the screening	Yes	54	21.3	48	20
	No	199	78.7	191	80
	Total	253	100	239	100
Thinks you're young for screening	Yes	90	35.6	92	38.5
	No	163	64.4	147	61.5
	Total	253	100	239	100

Overall attitude to the prevention of breast and cervical cancer were approximate (34.15%), only 18.47% of women had the right attitudes (**Figure 2**).



**Figure 2.** Attitudes towards preventive measures for breast and cervical cancer among women in the Mbankomo health district.

Breast and cervical cancer prevention practices were generally inadequate (**Figure 3**). In fact, 7.05% of participants reported taking tobacco and 13.74% a prolonged hormonal treatment. In terms of breast cancer prevention, 59.7% of participants reported that they did not perform breast self-examination. Of the 40.3% who did, only 7.84% did so one week after menstruation. A total of 15.84% of participants said they had not breastfed their children for at least 6 months, and 82.2% had never been screened for breast cancer (**Table 7**).

**Table 7.** Practice of breast cancer prevention measures.

Practice of breast cancer prevention measures	Frequency	%
Have you ever done breast cancer screening?		
Yes	45	17.8
No	208	82.2
Total	253	100
Do you ever do the self-examination?		
Yes	102	40.3
No	151	59.7
Total	253	100
What Frequency?		
Every day	6	5.9
From time to time	88	86.3
One week after menstruation	8	7.84
Total	102	100
Do you breastfeed children for more than 6 months?		
Yes	120	42.25
No	45	15.84

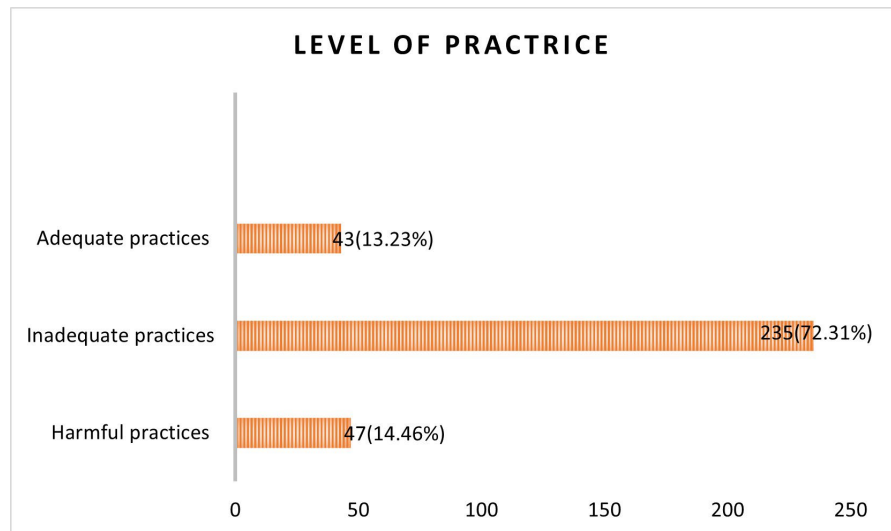
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I haven't given birth yet	119	41.90
Total	284	100

In terms of cervical cancer prevention practices, only 9.2% of participants had already been screened, 86.3% of them less than 5 years ago. Only 4.2% of participants had received the HPV vaccine, of whom 20% had taken one dose, 30% two doses and 50% three doses. A total of 20.5% of women reported having more than one sexual partner. Concerning condom use, only 13% of participants used condoms every time they had sex, while 45% used them rarely and 25.4% never did. The remaining 16.6% of participants said they practice abstinence (**Table 8**).

**Table 8.** Practice of cervical cancer prevention measures.

Practice of cervical cancer prevention measures	Frequency	%
Have you ever been screened for cervical cancer?		
Yes	22	9.2
No	217	90.8
Total	239	100
Is your screening more than 5 years old?		
Yes	3	13.7
No	19	86.3
Total	22	100
Have you already had the HPV vaccine?		
Yes	10	4.2
No	229	95.8
Total	239	100
How many doses did you receive?		
1 dose	2	20
2 doses	3	30
3 doses	5	50
Total	10	100
Do you have more than one sexual partner?		
Yes	58	20.5
No	179	63
Abstinence	47	16.5
Total	284	100
Do you use condoms during sex?		
Every time	37	13
Never	72	25.4
Rarely	128	45
Abstinence	47	16.6
Total	284	100



**Figure 3.** Women's use of preventive measures against breast and cervical cancer in the Mbankomo health district.

#### 4. Discussion

Women's knowledge, attitude, and practice of preventive measures against breast and cervical cancer was poor, and associated with a low level of education. A study conducted in Brazzaville reported primary education as one of the barriers to cervical cancer screening [11]. In fact, it has been shown that the less advanced the level of education, the lower the socio-educational level of women is, and the less exposure they have to various information channels [12].

Women's main sources of information were radio and television. This is similar to a study conducted in the Congo, where women's primary source of information about cervical cancer was also the media [13]. Indeed, the media can be an effective means of combating these diseases through an audiovisual awareness-raising approach to strengthen communication on the subject [11].

Knowledge of the risk factors for breast and cervical cancer was also poor. And this knowledge can be improved by investing in communication and awareness-raising resources [14].

However, attitudes were favorable to learning more about the subject, and it was also noted that the intention to use screening, although low, improved over time with reference to studies carried out in the country [15]. This renewed interest therefore represents an opportunity to improve the prevention of these diseases, bearing in mind that the perception of a disease may depend on the level of information on the subject [16]. Most of the women who took part in the survey had a mistaken perception of risk and screening. More than half of the women said they were not at risk of breast and cervical cancer. Similar results were reported in a study conducted in Gabon [17]. This may be explained by their predominantly young age group. Because of their young age, these women did not think they were at risk of developing these diseases. However, studies have shown an increase in the incidence

of cancer in young people [18] [19]. When it came to screening, more than a third of participants found it embarrassing and were afraid of discovering a serious illness. Several studies have also highlighted these remarks [17] [20]. Fear reflects a poor understanding of the natural history of these diseases and of the principle of secondary prevention that underlies screening [21]. In addition, the breasts and female genital tract are often considered to be intimate, and women sometimes feel intimidated to discuss the symptoms associated with them. Therefore, destigmatizing discussions about the female genital tract through awareness-raising would be an important strategy to encourage women to be screened and to seek care if they have associated symptoms [22].

However, these mostly approximate attitudes of women were correlated with inadequate practices, in line with a study conducted in Bamenda [23]. This may be explained by the poor level of knowledge of these diseases in these studies. It has been shown that the use of preventive measures is correlated with a good level of knowledge about the disease [24]. The inadequacy of practices was most marked by low levels of screening for breast and cervical cancers. Results differ from those in developed countries [14]. Less than a tenth of participants had taken the HPV vaccine. This may be explained by the fact that after the age of 13, the HPV vaccine is expensive in Cameroon, so not all women can afford it easily [25].

The practice of preventive measures against breast and cervical cancers remains insufficient. It will be wise to intensify primary and secondary prevention interventions focused on awareness strategies, vaccination and early detection of these cancers [26]. Including key actors in the region such as community health workers, traditional and religious communities, teachers, and involving the most common sources of information (media, social networks, health facilities). Extend these actions to the most remote corners of the district while targeting the youngest and least educated.

## 5. Conclusion

This study aimed at evaluating women's knowledge, attitudes and practices regarding preventive measures against breast and cervical cancer. The results showed that most of the participants were between 21 and 30 years old, single, and had at least one child. Knowledge was poor overall and mainly related to prevention measures. Attitudes were approximate overall and mainly related to the fear of discovering a serious disease and the fact of not being at risk of cancers. Overall practices were inadequate, with a particular lack of screening and vaccination against HPV. Harmful practices were associated with poor knowledge and a harmful attitude. As a result, it would be advisable to raise awareness of breast and cervical cancer prevention, targeting all women and youths, particularly in the current context where cancers are increasingly occurring in young people.

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and all participants who made the study possible.

### Limits of the Study

- The answers provided depended on the sincerity of the participants.
- The reluctance of women in general, and older women in particular, to take part in the study.

### Conflicts of interest

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

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**Appendix****COLLECTION TOOL**

Number	Questions	code
Part I: Socio-demographic data on the participant		
	How old are you?	
I)	1) 21 - 30    2) 31 - 40    3) 41 - 50    4) 51 - 60    5) 61 - 70[ (Nb: only one answer possible)	[ ]
	How many children have you given birth to?	
II)	1) None    2) One child    3) 2 or more children (Nb: only one answer possible; number of children delivered alive or dead)	[ ]
	What is your level of education?	
III)	1) Not at school    2) Primary level    3) Secondary level (1st /2nd cycle)    4) Higher level    5) Other (only one answer possible)	[ ]
	What is your marital status?	
IV)	1) Single    2) Married    3) Divorced    4) Widowed (Nb: only one answer possible)	[ ]
Part II: Knowledge about breast and cervical cancer		
	Have you ever heard of breast cancer?	
I)	1) Yes    2) No	[ ]
	Have you ever heard of cervical cancer?	
II)	1) Yes    2) No	[ ]
	Source of information	
III)	a) School    b) media    c) health facilities    d) social networks    e) other (Nb: several answers possible)	[ ]
	Are breast and cervical cancers preventable diseases?	
IV)	1) Yes    2) No    3) I don't know (Nb: only one answer possible)	[ ]
	Is heavy drinking a risk factor for breast and cervical cancer?	
V)	1) Yes    2) No    3) I don't know Nb: only one answer possible)	[ ]
	Is smoking a risk factor for breast and cervical cancer?	
VI)	1) Yes    2) No    3) I don't know (Nb: only one answer possible)	[ ]
	Are prolonged hormone treatments (fertility hormones, menopause contraceptives) risk factors for breast and cervical cancer?	
VII)	1) Yes    2) No    3) I don't know (Nb: only one answer possible)	[ ]
	Are exposure to radiation and radio waves risk factors for breast and cervical cancer?	
VIII)	1) Yes    2) No    3) I don't know (Nb: only one answer possible)	[ ]

**Continued**

IX)	Can regular physical exercise prevent breast and cervical cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
X)	Can getting tested prevent breast and cervical cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XI)	Is breast cancer hereditary? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XII)	Does ageing predispose a woman to breast cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XIII)	Is obesity a risk factor for breast cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XIV)	Can prolonged breastfeeding prevent breast cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XV)	Is there a vaccine against cervical cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XVI)	Do sexually transmitted diseases cause cervical cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XVII)	Can using condoms all the time prevent cervical cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XVIII)	Can being faithful to just one partner prevent cervical cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XIX)	Does HIV infection favor cervical cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>
XX)	Can abstinence prevent cervical cancer? 1) Yes 2) No 3) I don't know (Nb: only one answer possible)	<input type="checkbox"/>

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Part III: Attitudes towards breast and cervical cancer prevention

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	Would you like more information on breast and cervical cancer?		[ <input type="checkbox"/> ]
I	1) Yes    2) No		
	If yes: On a) prevention b) causes c) treatment d) others (Nb: several answers possible)		[ <input type="checkbox"/> ]
II)	Have you ever thought about getting screened for breast cancer?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
III)	Have you ever thought about getting screened for cervical cancer?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
IV)	Do you think you are at risk of breast cancer?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
V)	Do you think you are at risk of cervical cancer?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
VI)	Do you think you need breast cancer screening?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
VII)	Do you think you need cervical cancer screening?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
VIII)	Do you think that breast cancer screening is accessible to all women?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
IX)	Do you think that cervical cancer screening is accessible to all women?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
X)	Is breast cancer screening embarrassing?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
XI)	Is cervical cancer screening embarrassing?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
XII)	Are you afraid of a poor result from breast cancer screening?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
XIII)	Are you afraid of a bad result from cervical cancer screening?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
XIV)	Do you think you're too busy to go for breast cancer screening?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
XV)	Do you think you're too busy to get screened for cervical cancer?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
XVI)	Do you think you are too young to undergo breast cancer screening?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
XVII)	Do you think you are too young to be screened for cervical cancer?		[ <input type="checkbox"/> ]
	1) Yes    2) No		
XVIII)	Do you think that breast self-examination can help prevent breast cancer?		[ <input type="checkbox"/> ]
	1) Yes    2) No		

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**Continued**

XIX)	Are you against breast self-examination? 1) Yes    2) No	<input type="checkbox"/>
XX)	Are you against the cervical cancer vaccine? 1) Yes    2) No	<input type="checkbox"/>
A practical guide to preventing breast and cervical cancer		
I)	How many glasses of alcohol or alcoholic beverages do you consume per week? 1) Less than 6 drinks    2) More than 6 drinks	<input type="checkbox"/>
II)	do you smoke cigarettes 1) Yes    2) No	<input type="checkbox"/>
III)	Do you think the distance you cover every day is equivalent to 8km (1h 40 min)? 1) Yes    2) No	<input type="checkbox"/>
IV)	Do you engage in regular physical activity at least once a week? (fields, sport...) 1) Yes    2) No	<input type="checkbox"/>
V)	Are you undergoing prolonged hormonal treatment (fertility hormone, menopause hormone, contraceptive hormone)? 1) Yes    2) No	<input type="checkbox"/>
VI)	Do you do breast self-examination? 1) Yes    2) No If yes: 1) every day    2) from time to time    3) every week after menstruation    4) other	<input type="checkbox"/> <input type="checkbox"/>
VII)	Have you already been screened for breast cancer? 1) Yes    2) No	<input type="checkbox"/>
VIII)	Do you breastfeed your children for more than 6 months? 1) Yes    2) No    3) no I haven't given birth yet	<input type="checkbox"/>
IX)	Do you have more than one sexual partner? 1) Yes    2) No    3) No I practice abstinence	<input type="checkbox"/>
X)	do you use a condom during sex 1) Yes every time    2) no never during sex    3) yes rarely    4) no I practice abstinence (Nb: only one answer possible)	<input type="checkbox"/>
XI)	Have you been vaccinated against the human papillomavirus (HPV)? 1) Yes    2) No	<input type="checkbox"/>
XII)	Have you already been screened for cervical cancer? 1) Yes    2) No If yes, how many doses have you received: a) 1 dose    b) 2 doses    c) 3 doses	<input type="checkbox"/>
XIII)	Is your cervical cancer screening more than 5 years old? 1) Yes    2) No	<input type="checkbox"/>
XIV)	Have you ever recommended breast cancer screening to anyone? 1) Yes    2) No	<input type="checkbox"/>
XV)	Have you ever recommended cervical cancer screening to anyone? 1) Yes    2) No	<input type="checkbox"/>