

# Factors Associated with Knowledge, Attitude, Practice of Women of Childbearing Age towards Gynecological and Breast Cancer in Glazoué, Benin in 2021

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## Abstract

**Introduction:** Gynaecological and breast cancers (GBC) are the most frequent and most serious cancers of women. They are frequent in Benin with an average of 108.5 cases per year. **Objective:** To identify factors associated with women's knowledge, attitudes and practices regarding GBC. **Methods:** This was a cross-sectional, prospective, descriptive and analytical study. Women of childbearing age residing in the commune of Glazoué in Benin for at least six months were included. The WHO cluster sampling technique was used. The Bruno De Finetti postulate and the Likert scale were used to study women's knowledge, attitudes and practices. Data were collected and analysed using Epi Data 3.1 and Epi info 7.2.2.6 software. **Results:** A total of 540 women were registered. The mean age was  $27.1 \pm 8.84$  years with extremes of 15 and 49 years. They were married (61.1%), had secondary education (40.2%) and lived in urban areas (61.9%). They had a low level of knowledge (75.4%), an adapted attitude (93.0%) and poor practice (88.9%). Occupation ( $p = 0.000$ ), level of education ( $p = 0.007$ ) and place of residence ( $p = 0.001$ ) significantly influenced knowledge of GBC. The attitude was adequate (93%) and the practice was poor (88.9%). Inappropriate attitude was significantly associated with the level of education ( $p = 0.006$ ). **Conclusion:** Women in the commune of Glazoué in Benin have a low level of knowledge of GBC with an adapted attitude and poor practice. Several factors are associated, hence the need to take them into account to facilitate GBC screening.

## Keywords

Knowledge, Gynaecological and Breast Cancers, Benin

## 1. Introduction

Worldwide, approximately 2 million gynaecological and breast cancers (GBCs) occur each year, accounting for almost 50% of all female cancers [1]. GBCs can affect the breast, cervix, endometrium, ovaries, vagina, vulva and fallopian tube [2]. These cancers are of major concern to the international community because they represent a significant cause of mortality and morbidity in women [3]. GBCs occupy an important place in the tumour pathology of women due to their frequency, severity and difficulties in management [2]. According to WHO, in 2013; out of the 7.6 million cancer deaths recorded worldwide, 519,000 deaths were due to breast cancer and 260,000 to cervical cancer [2]. In Africa, the most common cancers in women are breast and cervical cancer [4]. According to Maamri A. in Morocco in 2008, the majority frequent cancers were breast 35.9% and cervical 13.2% with a mortality rate of 29.3% and 12% respectively [5]. Moreover, in Togo in 2011, Amégbor K. *et al.* found that the annual frequency of GBC varied between 14 and 79 with an average of 44 cases [6]. In Benin, a study reported an annual frequency of 108.5 cases of GBC. Breast cancer ranked first (58.5%) followed by cervical cancer (27.5%) [7]. Prevention of GBC will reduce its frequency. The best knowledge, attitude and practice of the population towards GBC will undoubtedly improve screening, hence the interest of this study.

## 2. Method

The study took place in the commune of Glazoué, a rural commune 234 km from Cotonou, the economic capital of Benin. The commune is divided into ten arrondissements (Assanté, Aklankpa, Glazoué (chief town), Gomé, Kpakpaza, Magoumi, Sokponta, Ouèdèmè, Thio and Zaffé) and 48 administrative villages. This was a descriptive and analytical cross-sectional study from June 15<sup>th</sup> to July 15, 2021. The study population consisted of women in the commune. Women of childbearing age residing in the commune for at least six months were included. All women who did not give their free and informed consent and who were unable to answer the questions due to a disability (deafness, mutism) were excluded from the study. The World Health Organisation (WHO) two-stage cluster survey technique was used with the city ward as the cluster unit. Thirty clusters were distributed over the 48 neighbourhoods of the commune. The sampling frame consisted of an exhaustive list of the 48 neighbourhoods in the commune of Glazoué, along with the respective number of women per neighbourhood. In the first stage, the 30 clusters were selected at random from the exhaustive list of neighbourhoods (primary units) of the commune. Then, in the second stage, the women of childbearing age (secondary units) were selected from the neighbourhoods identified in the first stage. The minimum sample size was obtained using the SCHWARTZ formula. The dependent variables of the study were knowledge, attitude and practice of GBC. Knowledge is said to be good when the score is higher than 75% (22 answers out of 32 questions), average when the score is be-

tween 50% and 75% (11 to 22 correct answers out of 32 questions) and poor when the score of correct answers is lower than 50% (fewer than 11 correct answers). A partial analysis of knowledge was also carried out based on Bruno de Finetti's postulate by asking the respondents to choose their degree of certainty or percentage of chance among one of the following 6: 0%, 20%, 40%, 60%, 80%, 100% for each answer. The knowledge is correct with a maximum degree when the answer is rated at +100%, usable: for answers rated between 60% and 100%, unusable: for answers rated between -40% and +40%, harmful: for answers rated between -60% and -100%, false with a maximum degree: when the answer is rated at -100%, ignorance is recognised for scores between -0 and +0%. Attitudes were measured using the Likert scale. Women were judged on a predetermined scale of strongly agree (4), agree (3), disagree (2) and strongly disagree (1). Attitudes were considered "adapted" when the score was higher than 50%, *i.e.*, at least 4 correct answers, and were considered "inappropriate" in the opposite case. As for practice, Likert scale items were used to evaluate the rating with options (always, sometimes, never). Positive to negative responses were scored from two to zero. The practice was considered "bad" when the score was below 50%, and "good" for a score above 50%. Data collection was done through an individual questionnaire by interviewers. Data entry and analysis was done by Microsoft Word and Excel 2016 software, Epi Data version 3.1. software, Epi info Version 7.2.2.6 (January 2018, CDC). Quantitative variables were expressed as mean plus or minus standard deviations and qualitative variables as a percentage. Comparison of percentages and proportions was performed with the Chi<sup>2</sup> test (or Fisher's exact test as appropriate). The comparison of means was performed with the student's t test and a logistic regression. For these comparisons, a probability  $p < 0.05$  was considered statistically significant. Authorisation was obtained from the various authorities, and the confidentiality of the data was respected.

### 3. Results

A total of 545 women of childbearing age were registered, of whom 540 were included in the study, *i.e.*, a participation rate of 99.08%. The mean age of the women was  $27.1 \pm 8.4$  years with extremes of 15 and 49 years. The age group of 15 to 20 years was represented in 29.8% of the cases (**Figure 1**).

The socio-demographic characteristics are shown in **Table 1**.

The women had a secondary education (217/547; 40.2%) (**Table 2**).

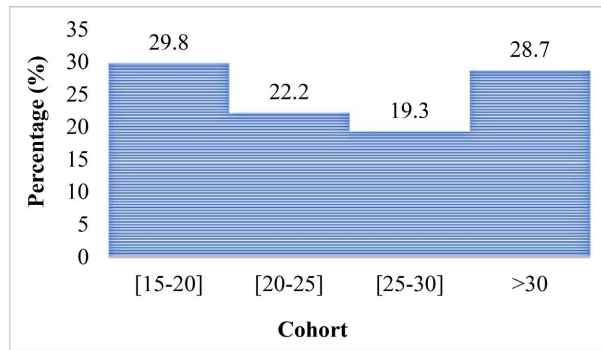
Among the 540 women surveyed, 91 (16.8%) had a medical history, including 84 cases of diabetes (92.3%) and 7 cases of hypertension (7.7%). Surgical history was noted in 57 women (10.5%) including 55 cases of nodulectomy (96.5%) and 2 cases of mastectomy (3.5%).

The average age of first menarche was  $15.2 \pm 1.6$  years with extremes of 10 and 19 years. Women who had their menarche between 12 and 15 years of age were represented in 49.8% of cases. The average age of first sexual intercourse

(coitarche) was  $17.6 \pm 1.9$  years with extremes of 12 and 31 years. Oral contraception was used by 9.4% of women (**Table 3**).

The average pregnancy was 1.9 and the average parity 1.7 children. Paucigravida (31%) and pauciparous (31.7%) women (**Table 4**).

Of the 540 women, 101 (18.7%) had a family history of GBC and 9 (1.7%) were smokers. They (455; 84.3%) reported having heard of breast cancer (BC).



**Figure 1.** Distribution of women of childbearing age by age group (Glazoué, 2021).

**Table 1.** Distribution of women of childbearing age by ethnicity, religion, marital status and nationality (Glazoué, 2021).

	Workforce	%
<b>Ethnicity</b>		
Fon and related	255	47.2
Idaatcha	242	44.8
Nago and related	36	6.7
Peulh	7	1.3
<b>Religion</b>		
Christian	470	87.0
Muslim woman	46	8.5
Endogenous	24	4.5
<b>Marital status</b>		
Single	186	34.4
Married	330	61.1
Divorced or separated	16	3.0
Widow	8	1.5
<b>Nationality</b>		
Beninese	534	98.9
Togolese	3	0.5
Ivorian	2	0.4
Malian	1	0.2

**Table 2.** Distribution of women of childbearing age by levels of education, occupation and place of residence (Glazoué, 2021).

	Workforce	%
<b>Level of education</b>		
No instruction	159	29.5
Primary studies	119	22.0
Secondary education	217	40.2
Higher education	45	8.3
<b>Profession</b>		
Housekeeper	186	34.4
Public servant	29	5.4
Shopkeeper	117	21.7
Farmer	23	4.3
Artisan	125	23.1
Pupil/student	53	9.8
Secretary	4	0.7
Waitress	3	0.6
<b>Place of residence</b>		
Rural	206	38.1
Urban	334	61.9

**Table 3.** Distribution of women of childbearing age by gynaecological history (Glazoué, 2021).

	Workforce	%
<b>Age of menarche</b>		
[10 - 12]	18	3.3
[12 - 15]	269	49.8
[15 - 18]	244	45.2
[18 - 19]	9	1.7
<b>Age of the coitarche</b>		
≤15	58	1.7
[15 - 18]	388	71.9
[18 - 21]	83	15.4
>21	11	2.0
<b>Taking oral contraceptives</b>		
Yes	51	9.4
No	489	90.6

**Table 5** shows the distribution of women of childbearing age according to their knowledge of breast cancer.

Women (193) who had heard of cervical cancer (CC) accounted for 35.7%. The sources of knowledge are presented in **Table 6**.

The women (39; 7.2%) had heard of endometrial cancer (EC). Their source of information and the risk factors cited (RF) are reported in **Table 7**.

**Table 4.** Distribution of women of childbearing age by obstetrical history (Glazoué, 2021, N = 540).

	Workforce	%
<b>Gravida</b>		
Nulligravida (0)	181	33.5
Primigravida (1)	88	16.3
Paucigeste (2 - 3)	167	31.0
Multigravida (4 - 6)	85	15.7
Large Multigravida > 6	19	3.5
<b>Parity</b>		
Nullipara (0)	192	35.5
Primipara (1)	93	17.2
Pauciparous (2 - 3)	171	31.7
Multiparous (4 - 6)	75	13.9
Large multiparous (>6)	9	1.7

**Table 5.** Distribution of women of childbearing age according to their knowledge of BC. (Glazoué, 2021, N = 455).

	Workforce	Frequency (%)
<b>Information sources</b>		
Media	200	43.9
Health Association	99	21.8
School	74	16.3
Internet	4	0.9
Personal Research	78	17.1
<b>BC RF</b>		
Aging	17	3.7
Nulliparity	30	6.6
Age of first birth > 30 years	30	6.6
Menopause	28	6.2
Lack of breastfeeding	130	28.6

**Continued**

Multiparity	18	3.9
Don't know	202	44.4
Symptoms of BC		
Bloody discharge from the breast	19	4.2
Breast mass	386	84.8
Colour changes in the breast	18	3.9
Nipple retraction	19	4.2
Non-symmetrical breast reduction	1	0.2
Abnormal breast enlargement	9	2
Pruritus of the breasts	3	0.7
Appropriate treatment in case of BC		
Phytotherapy	73	16
Breast self-examination	68	15
Consultation	193	42.4
Don't know	121	26.6

**Table 6.** Distribution of women of childbearing age by knowledge of CC (Glazoué, 2021, N = 193).

	Workforce	Frequency (%)
<b>Information sources</b>		
Media	69	35.8
Health training	39	20.2
School	60	31.1
Internet	8	4.1
Personal Research	17	8.8
<b>CC RF</b>		
Multiple sexual partners	33	17.1
Earliness of sexual intercourse	21	10.9
Tobacco	30	15.5
STIs	74	38.3
Oral contraception	5	2.6
Immune deficiency	1	0.5
Don't know	29	15.1
Symptoms of CC cancer		
Bleeding	86	44.6
White losses	52	26.9

**Continued**

Lower abdominal pain	5	2.6
Don't know	50	25.9
<b>Treatment of CC</b>		
Indigeneity	11	5.7
Consultation	113	58.6
Surgery	11	5.7
Don't know	58	30.0

**Table 7.** Distribution of women of childbearing age according to their knowledge of EC. (Glazoué, 2021, N = 39).

	<b>Workforce</b>	<b>Frequency (%)</b>
<b>Source of information</b>		
Media	14	35.8
Health Association	7	18.0
School	7	18.0
Personal Culture	11	28.2
<b>EC RF</b>		
Obesity	2	5.1
Diabetes	2	5.1
Late menopause	5	12.9
Don't know	30	76.9
<b>Symptoms of FT</b>		
Bleeding	11	28.2
White losses	9	23.1
Cystitis	4	10.3
Don't know	13	33.3
Other	2	5.1
<b>EC treatment</b>		
Traditional treatment	12	30.8
Consultation	17	43.6
Removed the uterus	2	5.1
Don't know	8	20.5

The women (124; 23.0%) had heard of ovarian cancer (OC). The sources of information and risk factors (RFs) cited by the women are shown in **Table 8**.

Women (36) who had heard of vulvar cancer (VC) accounted for 23% of cases. **Table 9** shows their sources of knowledge and RFs for vulvar cancer.



Of the 540 participants, 217 (40.2%) had heard of vaginal cancer (VaC). **Table 10** shows their sources of knowledge and RFs for vaginal cancer.

**Table 8.** Distribution of women of childbearing age according to their knowledge of OC (Glazoué, 2021, N = 124).

	Workforce	Frequency (%)
<b>Information sources</b>		
Media	62	50.0
Health Association	30	24.2
School	22	17.7
Internet	3	2.4
Personal Research	7	5.7
<b>OC RF</b>		
High age $\geq$ 50 years	10	8.1
Tobacco	11	8.9
Nulliparity	19	15.3
Infertility	22	17.7
Multiparity	62	50.0
<b>Symptoms of OC</b>		
Bleeding	36	29.0
Constipation	15	12.1
Dysuria	12	9.7
Leucorrhea	37	29.8
Don't know	24	19.4
<b>Treatment of OC</b>		
Traditional treatment	35	28.2
Consultation	64	51.6
Removed the uterus	7	5.7
Don't know	18	14.5

**Table 9.** Distribution of women of childbearing age according to their knowledge of vulvar cancer (Glazoué, 2021, N = 36).

	Workforce	Frequency (%)
<b>Sources of information for the VC</b>		
Media	25	69.4
Health Association	3	8.3
School	2	5.6
Internet	1	2.8
Personal Research	5	13.9

**Continued****VC RF**

High age > 60 years	7	19.5
Obesity	7	19.5
Diabetes	3	8.3
Genital infection	19	52.7

**Symptoms of VC**

Pruritus	8	22.2
Mass	16	44.5
Bleeding	5	13.9
Don't know	7	19.4

**VC treatment**

Traditional treatment	11	30.5
Consultation	13	36.1
Hysterectomy	6	16.7
Don't know	6	16.7

**Table 10.** Distribution of women of reproductive age according to their knowledge of vaginal cancer (Glazoué, 2021, N = 217).

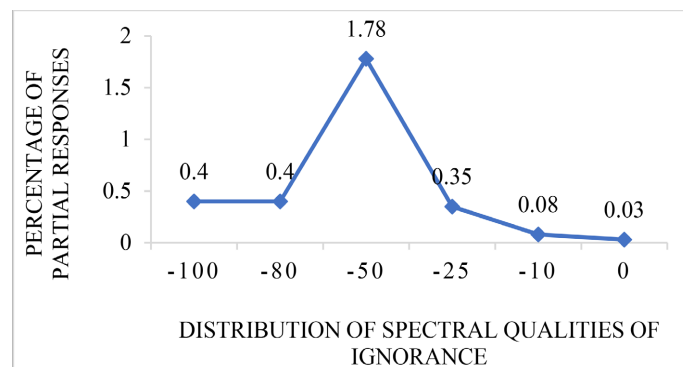
	<b>Workforce</b>	<b>Frequency (%)</b>
<b>Information sources</b>		
Media	64	29.5
Health Association	33	15.2
School	30	13.8
Internet	1	0.5
Personal Research	89	41.0
<b>VaC RF</b>		
HPV	34	15.7
High age > 60 years	23	10.6
Don't know	160	73.7
<b>Symptoms of VaC</b>		
Losses	27	12.4
Mass	125	57.6
Don't know	65	30.0
<b>Treatment of VaC</b>		
Traditional treatment	44	20.3
Consultation	127	58.5
Hysterectomy	16	7.4
Don't know	30	13.8

Of the participants (26; 4.8%) had a good level of knowledge of GBC (107; 19.8%) had an average level of knowledge and (407; 75.4%) had a low level of knowledge of GBC. Bruno De Finetti's postulate was used to analyse the partial knowledge using the 32 items to identify the following certainties:

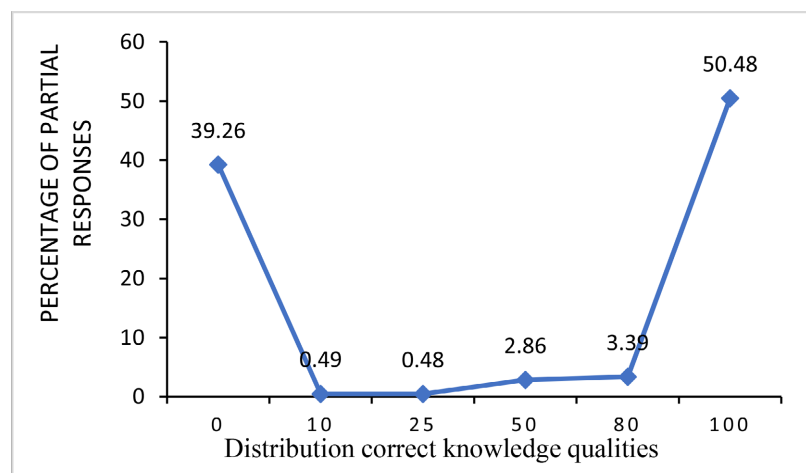
- 50.5% of knowledge was correct with 100% certainty;
- 56.7% of knowledge was usable;
- 39.8% of knowledge was unusable;
- 94.3% of knowledge was harmful;
- 0.4% of the knowledge was false with 100% certainty;
- 39.3% of the knowledge corresponded to an acknowledged ignorance.

**Figure 2** shows the graphical spectrum of women's GBC misunderstandings. In this figure, a steep pyramid curve with a very narrow top is observed, which means that these women are unrealistic in their incorrect answers.

**Figure 3** presents the graphical spectrum of women's correct responses on the GBC. We observe in this figure, a curve with a U-shaped distribution on the right and presents a torch-like aspect which signifies that these women "radicalise" their answers: either to 50% (minimum certainty) or 100% (maximum certainty).



**Figure 2.** Spectral signature of women of reproductive age's lack of awareness of gynaecological and breast cancers (Glazoué, 2021).



**Figure 3.** Spectral signature of correct knowledge in the face of GBC (Glazoué, 2021).

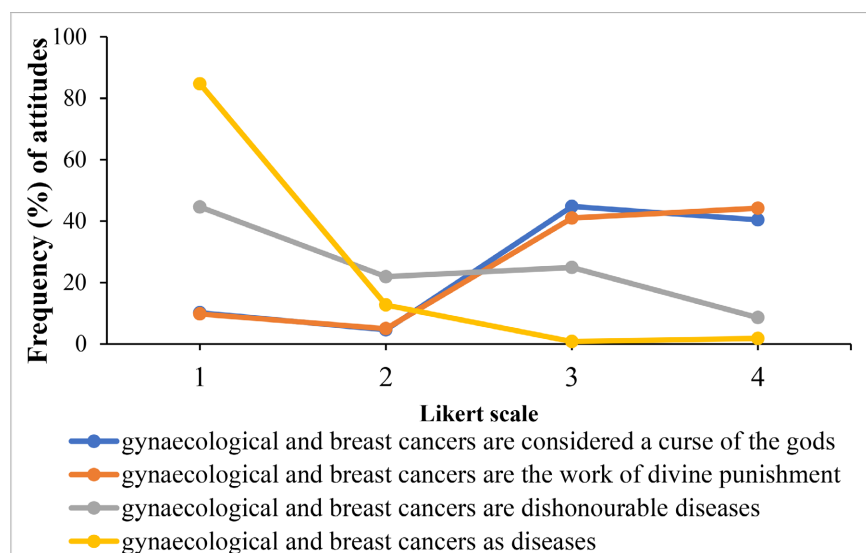
Of 540 women, 502 (93.0%) had an appropriate attitude. The Likert scale was used to further assess women’s attitudes towards GBC. The adapted attitudes covered the questions represented in **Figure 4**.

**Figure 5** shows two progressively changing curves explaining that more women scored a total of 4 out of 4 points on the Likert scale signifying an adapted attitude towards GBC.

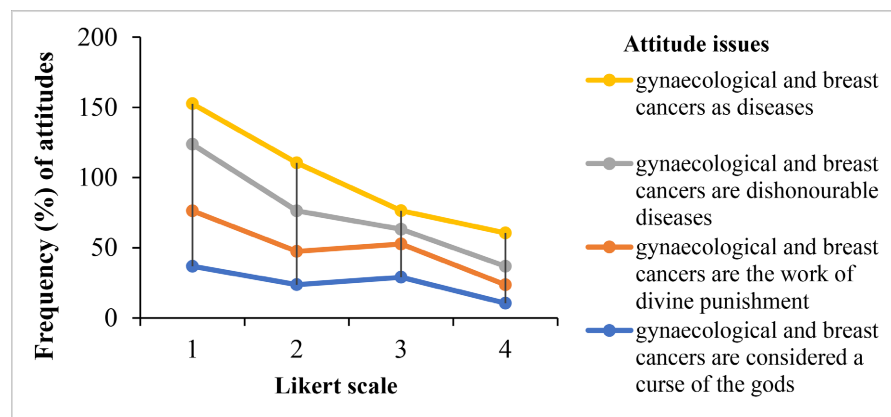
The maladaptive attitudes were related to the questions shown in **Figure 5** and this figure shows us regression curves illustrating that a significant number of women scored 1 out of 4 points on their Likert scale responses corresponding to a maladaptive attitude towards GBC.

Of the 540 women surveyed, 464 (85.9%) recommended going to a health-care unit for gynaecological and breast cancer, 69 (12.8%) felt that they should go to a tradi-therapist and 7 (1.3%) felt that they should stay at home.

The women’s level of practice at GBC was poor in 480 (88.9%) women and



**Figure 4.** Appropriate attitudes of women of childbearing age towards gynaecological and breast cancer (Glazoué, 2021, N = 502).



**Figure 5.** Inappropriate attitudes of women of childbearing age towards gynaecological and breast cancers (Glazoué des, 2021, N = 38).

good in 60 (11.1%) others. Of the participants, 33 (6.1%) women had symptoms that were suggestive of GBC. Of these, 54.5% had sought care in a hospital. Of all the respondents, 57 (10.6%) had a relative who had suffered from GBC and in 71.9% of the cases they had gone to a hospital.

The low level of knowledge was associated with occupation ( $p = 0.000$ ), place of residence ( $p = 0.001$ ) and level of education ( $p = 0.007$ ). In fact, women farmers, craftswomen and housewives had a much lower level of knowledge. In addition, women living in rural areas and those who are not educated also had a low level of knowledge (Table 11).

**Table 11.** Relationship between socio-demographic characteristics and low level of knowledge of women of childbearing age regarding GBC (Glazoué, 2021).

	Total	Low level of knowledge				<i>P</i>
		N	%	PR	95% CI	
<b>Profession</b>						<b>0.000</b>
Housekeeper	186	143	76.9	1		
Public servant	29	15	51.7	0.47	[0.30 - 0.75]	
Shopkeeper	117	83	70.9	0.79	[0.54 - 1.17]	
Farmer	23	22	95.7	5.31	[0.76 - 36.80]	
Artisan	125	103	82.4	1.31	[0.82 - 2.08]	
Pupil/student	53	37	69.8	0.76	[0.74 - 1.24]	
Other	7	4	57.1	0.53	[0.22 - 1.31]	
<b>Place of residence</b>						<b>0.001</b>
Rural	206	174	84.5	1.94	[1.36 - 2.78]	
Urban	334	233	69.8	1		
<b>Level of education</b>						<b>0.007</b>
Not educated	159	128	80.5	1.20	[0.81 - 1.79]	
Primary	119	87	73.1	0.87	[0.59 - 1.27]	
Secondary	217	166	76.5	1		
Superiors	45	26	57.8	0.55	[0.36 - 0.84]	
<b>Ethnicity</b>						
Fon and related	255	180	70.6	1		
Idaatcha	242	195	80.6	1.51	[1.10 - 2.08]	
Nago and related	36	27	75.0	1.17	[0.64 - 2.13]	
Peulh	7	5	71.4	1.02	[0.31 - 3.37]	
<b>Age range</b>						0.132
[15 - 20]	161	132	82.0	1		
[20 - 25]	120	87	72.5	0.65	[0.42 - 1.01]	
[25 - 30]	104	77	74.0	0.69	[0.43 - 1.10]	
>30	155	111	71.6	0.63	[0.41 - 0.95]	

The adapted attitude was statistically associated with the level of education of women ( $p = 0.006$ ). The more the level of education increased, the more the attitude was adapted (Table 12).

There was no statistically significant association between poor practice and socio-demographic characteristics (Table 13).

**Table 12.** Relationship between socio-demographic characteristics and the adapted attitude of women of childbearing age towards GBC. (Glazoué, 2021).

	Total	N	Appropriate level of attitude			
			%	PR	95% CI	<i>p</i>
<b>Profession</b>						<b>0.174</b>
Housekeeper	186	169	90.9	1		
Public servant	29	25	86.2	0.66	[0.23 - 1.83]	
Shopkeeper	117	108	92.3	1.18	[0.54 - 2.57]	
Farmer	23	21	91.3	1.05	[0.25 - 4.26]	
Artisan	125	122	97.6	3.80	[1.13 - 12.72]	
Pupil/student	53	51	96.2	2.42	[0.57 - 10.15]	
Other	7	6	85.7	0.63	[0.09 - 4.15]	
<b>Place of residence</b>						<b>0.864</b>
Rural	206	192	93.2	1.05	[0.55 - 1.99]	
Urban	334	310	92.8	1		
<b>Level of education</b>						<b>0.006</b>
No instruction	159	140	88.1	0.34	[0.16 - 0.74]	
Primary	119	109	91.6	0.49	[0.20 - 1.18]	
Secondary	217	208	95.9	1		
Superior	45	45	100.0	0.00	-	

**Table 13.** Relationship between socio-demographic characteristics, overall level of knowledge and poor level of practice of women of reproductive age in relation to GBC (Glazoué, 2021).

	Total	N	Poor level of practice			
			%	PR	95% CI	<i>p</i>
<b>Profession</b>						<b>0.990</b>
Housekeeper	186	165	88.7	1		
Public servant	29	25	86.2	0.81	[0.30 - 2.21]	
Shopkeeper	117	106	90.6	1.20	[0.60 - 2.39]	
Farmer	23	21	91.3	1.29	[0.32 - 5.18]	
Artisan	125	110	88.0	0.94	[0.50 - 1.75]	

**Continued**

Pupil/student	53	47	88.7	0.99	[0.42 - 2.34]	
Other	7	6	85.7	0.79	[0.12 - 5.07]	
<b>Place of residence</b>						0.380
Rural	206	180	87.4	0.80	[0.49 - 1.30]	
Urban	334	300	89.8	1		
<b>Level of education</b>						0.638
No instruction	159	142	89.3	0.90	[0.49 - 1.65]	
Primary	119	102	85.7	0.67	[0.37 - 1.23]	
Secondary	217	196	90.3	1		
Superiors	45	40	88.9	0.87	[0.34 - 2.18]	
<b>Marital status</b>						0.355
Single	186	166	89.2	0.98	[0.58 - 1.65]	
Married	330	295	89.4	1		
Divorced or separated	16	12	75.0	0.42	[0.17 - 1.04]	
Widow	8	7	87.5	0.84	[0.13 - 5.45]	

**4. Discussion**

Women's knowledge about GBC was under the influence of some socio-demographic factors such as residence, education level and occupation. These results are similar to those found by Bouslah S. *et al.* in Tunisia in 2014 [8] who showed that women's knowledge about cervical cancer was under the influence of socio-demographic factors. GBCs are pathologies little known by women in the commune of Glazoué in Benin. Indeed, 75.4% have a low level of knowledge against only 4.8% who have a good level of knowledge. This relatively low level of knowledge varies from one type of cancer to another. Women are more aware of the breast and cervical cancer than of other gynaecological cancers (ovary, endometrium, vulva and vagina). Breast cancer was the most familiar cancer to the women in our study. We noted that 84.3% had heard of breast cancer and their main sources of information were the media (43.9%). This result is close to the 76.67% of women who had heard about breast cancer found in Morocco by Keita S *et al.* [9] and the most frequent sources of information were relatives (48.7%) followed by television (34%). Cervical cancer comes in second position with a rate of 35.7%. This rate is lower than the one found by Mbongo in Congo concerning knowledge, attitude and practice on cervical cancer screening where 78.6% of women knew about cervical cancer [10]. This difference can be explained by the fact that the socio-demographic characteristics were not the same as those in this study. Most women were multiparous and the mean age was 32.8 years. Of the women who had heard of cervical cancer, 38.3% knew of at least one risk factor (STI). The main symptom mentioned was a breakthrough bleed-

ing (44.6%) and 58.6% felt that consultation was the most appropriate treatment. The first source of information on cervical cancer was the media (35.80%), similar to the Mbongo study in Congo where the first source of information on cervical cancer for women was the media [10]. It was noted that 84.3% had heard of breast cancer and their main sources of information were the media (43.9%). This result is close to the 76.67% of women who had heard about breast cancer found in Morocco by Keita S *et al.* [9]. There was a significant association between knowledge of GBC and area of residence ( $p = 0.0001$ ). The low level of knowledge decreased significantly as the woman's level of education increased and women farmers in 95.7% of cases had a low level of knowledge versus 76.9% of housewives. This difference observed was statistically significant at the 5% threshold ( $p = 0.000$ ). This situation can be explained by the fact that women with a higher level of education and women living in urban areas have a high socio-educational level and easy access to the health service and the various media. The attitude was appropriate (93.0%). This rate is similar to that found in Tunisia in 2014 which was 93.9% [8]. The level of education was significantly associated with the level of adapted attitude of the participants ( $p = 0.006$ ). The adapted attitude evolved progressively according to the subject's higher education level. The level of education may explain these adapted attitudes, although we did not find similar data in the literature. In addition to the adapted attitude, there are still socio-cultural constraints that make some women believe that GBC is the work of a divine punishment and therefore traditional treatment was the most appropriate. Among the participants, 33 (6.1%) women had symptoms that pointed to GBC. Of these, 54.5% had visited a hospital for treatment. This result is higher than the 22.1% [8] of hospital use for GBC screening found in Tunisia. This difference in the use of hospital facilities can be explained by the fact that the patients in our population were symptomatic whereas the Tunisian study [8] involved systematic screening. The level of practice in relation to GBC was poor in 480 (88.9%) women. This inadequacy in practice shows the difficulties for the public authorities to ensure an optimal health coverage and to make women responsible for a regular practice. It is essential that in the organisation of screening and treatment campaigns for GBC cancers that there be information campaigns.

## 5. Conclusion

In Benin in Glazoué, women have a low level of knowledge, adapted attitude and practice towards GBC. Women with poor knowledge were unrealistic according to Bruno De Finetti's postulate. While those with good knowledge were radical in their responses. Factors associated with low knowledge were occupation, residence and education level, followed by education level and inadequate attitude. There is a need to inform the population in mass awareness campaigns while focusing on the associated factors to increase the rate of GBC screening.



## Conflicts of Interest

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

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