



Original Article

Knowledges, Attitudes, and Practices on Cervical Cancer Screening by Women in Brazzaville-Congo

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Abstract

Background: Cervical cancer is a serious disease, responsible for more than 311,000 deaths worldwide each year. The objective of the study was to assess the knowledge, attitudes, and practices (KAPs) regarding cervical cancer screening of women aged 25–65. **Materials and Methods:** This was an analytical KAP study conducted from May 2, 2018, to August 10, 2018, including women aged 25–65 years, attending the gynecology-obstetrics departments of six hospitals in Brazzaville. The variables of interest were sociodemographic and reproductive characteristics, KAPs. Frequencies, central tendency parameters, and odds ratios were calculated using Epi Info 7.2.2.6 software. We used Pearson, Fisher, and Wald statistical tests, with a significance level of 0.05. **Results:** We interviewed 169 women aged 25–65 years (average 35 [±9.05] years). The majority had an unsatisfactory level of knowledge (70.41%), favorable attitudes (56.21%), and bad practices (43.20%). Factors associated with better knowledge were at least secondary school education (adjusted odds ratio [ORa]: 1.76 [1.02–3.34]) and being employed (ORa: 4.24 [2.60–6.93]). Women with the best knowledge had the best attitudes (ORa: 3.86 [2.38–6.26]) and best practices (ORa: 5.28 [3.08–9.05]). Those with better attitudes had better practices (ORa: 2.94 [1.87–4.61]). **Conclusion:** Women in Brazzaville lack knowledge about cervical cancer. Better knowledge and attitudes were associated with best practices, hence the need to implement awareness – raising strategies to give greater impetus to the participation of Congolese women in cervical cancer screening.

Keywords: Attitudes, cervical cancer, knowledge, practices, screening, women

INTRODUCTION

Precancerous lesion of the cervix is a benign and asymptomatic epithelial abnormality. However, if untreated, they can progress to invasive cancer.^[1] Cervical cancer is the second leading cause of cancer deaths among women in resource-limited countries,

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Received: 31-Dec-2019 Revised: 25-Feb-2020

Accepted: 18-Mar-2020 Published: 02-Jun-2020

Access this article online

Quick Response Code:



Website:
www.ejcrp.org

DOI:
10.4103/JCRP.JCRP_7_20

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How to cite this article: Tebeu PM, Antaon JS, Woromogo SH, Tatsipie WL, Kibimi C, Njiki R. Knowledges, attitudes, and practices on cervical cancer screening by women in Brazzaville-Congo. *J Cancer Res Pract* 2020;7:60-6.

after breast cancer. It is a sexually transmitted disease that progresses very slowly between during 10–20 years period and therefore offers a great opportunity for screening.^[1]

GLOBOCAN 2018 estimated that more than 570,000 new cases and 311,000 deaths are attributed to cervical cancer worldwide,^[2] with more than 31,900 new cases and 23,500 deaths in Central Africa.^[2] In the CEMAC subregion (Cameroon, Centrafica Republic, Congo, Gabon, Equatorial Guinea, Chad), the same source estimates more than 3900 new cases and 2700 deaths per year.^[2] In sub-Saharan Africa, only 2.6%–8.3% of women are screened for cervical cancer.^[3,4] Few studies are available on the knowledge, attitudes, and practices (KAPs) of women in Brazzaville regarding cervical cancer screening.

Objective

The objective of the study was to assess the knowledge, attitudes, and practices of women aged 25–65 years in Brazzaville on cervical cancer screening.

MATERIALS AND METHODS

This was an analytical KAP study conducted from May 2, 2018, to August 10, 2018 in Brazzaville. It took place in six public hospitals (Brazzaville University Hospital Centre, Talangai, Makélékélé, Mfilou, Bacongo, and Pierre Mobengo Hospital). Congolese women aged 25–65 years who were seen in the obstetrics and gynecological departments of the Mentioned hospitals were included in the study. Women who were unable to respond to our questionnaire were excluded from the study.

Data collection was done using a pretested questionnaire that was structured in four sections: the first section on sociodemographic and reproductive data; the second section on knowledge of risk factors, means of cervical cancer prevention, age of screening initiation, and benefits of cervical cancer screening; the third section on women's attitudes toward cervical cancer screening; and the last section on women's practices toward screening.

Data on women's KAPs were rated with maximum scores of 17 points, 4 points, and 6 points, respectively. After each criterion was scored, KAPs were grouped together to obtain the number of points for each of three main variables (KAPs). The points obtained made it possible to classify knowledge into four levels each, namely very insufficient (0–4), insufficient (5–7), good (8–11), and very good (12–17); attitudes as very negative (0–1), negative (2), positive (3), and very positive (4); and practices as very weak (0–1), weak (2–3), good (4–5), and very good (6).

To understand interactions among KAPs, we grouped the levels of KAPs into two modalities each, namely for knowledge: unsatisfactory and satisfactory (0–4 points; 5–17 points); for attitudes: unfavorable and favorable (0–2 points; 3–4 points); and for practices: bad and good (0–1 points; 2–6 points). The rating of the levels of knowledge and attitudes was adapted according to the methods of DeFinetti^[5] and Likert.^[6]

Practices were adapted according to previous work on the quantification of levels of practice in studies of KAPs.^[7,8]

The data were analyzed using Epi-Info software 7.2.2.6. (Produced by Center for Disease Control and Prevention (CDC), USA). With regard to the calculations performed, to establish the levels of KAPs, absolute and relative frequencies as well as central tendency parameters (mean and median) and dispersions (standard deviation and quartiles) were calculated. With respect to the influences among the different variables, simple and multiple logistic regression analyses were performed; odds ratios were calculated with their 95% confidence intervals. Statistical tests of Pearson Chi-square, Fisher, and Wald were used. The significance level was $P < 5\%$. The study was submitted to and approved by the Ethical Committee of the Inter-state Centre for Higher Education in Public Health of Central Africa (CIESPAC), Congo IRB No. 001/CSERC/CIESPAC/2018. Informed consent of the respondents was obtained.

RESULTS

Sociodemographic characteristics of the participants

A total of 169 women were interviewed, with ages ranging from 25 to 65 years (mean age: 35 [± 9.05] years). Most of the participants were single (69.82%; 118/169) [Table 1].

Respondents' knowledge, attitudes, and practices

Almost all (81.66%; 138/169) of the women surveyed had heard of cervical cancer. Few (3.55%; 6/169) knew that early sexual intercourse is a risk factor for cervical cancer. Overall, 17.75% (30/169) and 5.33% (9/169) of the women knew that the early detection and vaccination against human papillomavirus, respectively, can prevent this disease [Table 2].

In addition, 10% of the respondents reported that cervical cancer had a "mysterious nature." The majority (81.07%; 137/169) of the respondents preferred that their screening was done by a midwife. Modern medicine was the most (91.12%; 154/169) common treatment reported in case of a positive diagnosis of precancerous lesions or cervical cancer.

The frequency of participation in cervical cancer screening was 8.88% (15/169) [Table 3].

After classifying the KAPs of the 169 respondents into four levels, the level of knowledge was very insufficient (70.41%), insufficient (17.75%), good (9.47%), and very good (2.37%). The level of attitudes was very negative (1.18%), negative (11.83%), positive (30.78%), and very positive (56.21%), and the level of practices was very low (43.20%), low (46.15%), good (4.73%), and very good (5.92%) [Table 4].

Thus, the respondents had unsatisfactory knowledge (70.41%), favorable attitudes (56.21%), and bad practices (43.20%).

Factors associated with best knowledge

The factors associated with the best (satisfactory) knowledge were having a high school education (superior) (11.36%

Table 1: Sociodemographic and reproductive profile of respondents in Brazzaville

Features	Persons interviewed (n=169)
Age	
Extreme age	25-65
Mean age	35±9.05
Median age	33 (28-40)
Age (class), n (%)	
25-35	98 (57.9)
36-45	48 (28.5)
46-55	15 (8.9)
56-65	8 (4.7)
Marital status, n (%)	
Single	118 (69.82)
Married	35 (20.71)
Divorced	5 (2.96)
Widow	11 (6.51)
Education level, n (%)	
None	4 (2.37)
Primary	40 (23.67)
Secondary	95 (56.21)
Superior	30 (17.75)
Professional status, n (%)	
Housewife	49 (28.99)
Employee	28 (16.57)
Student/student	20 (11.83)
Independent activity	72 (42.61)
Age of 1 st delivery	
Age extremes	12-35
Age (class), n (%)	
12-17	42 (24.85)
18-22	77 (45.56)
23-27	39 (23.08)
28-33	10 (5.92)
35	1 (0.59)
Number of children	
Extremes	1-9
Median	2 (1-4)
Number of children (class), n (%)	
0-5	153 (90.53)
6-10	16 (9.47)

vs. 27.37%; adjusted odds ratio [ORa]: 1.76 [1.02–3.34]; $P = 0.040$), having a higher level (11.36% vs. 63.33, ORa: 2.96 [1.54–5.68]; $P = 0.0008$), and being employed (12.24% vs. 75%; ORa: 4.24 [2.60–6.93]; $P = 0.0001$) [Table 5].

Influence of knowledge on attitudes

Women with the best (satisfactory) knowledge had a higher rating of having better (favorable) attitudes. This score remained significant after adjusting for confounding factors (47.06% vs. 78%; ORa: 3.8 [2.38–6.26]; $P = 0.001$) [Table 6].

Influence of knowledge and attitudes on respondents' practices

Women with the best (satisfactory) knowledge about cervical cancer screening had a higher rating of having better (good)

Table 2: Summary of the knowledge of the women interviewed on cervical cancer screening in Brazzaville

CCU's knowledge of cancer and screening	Persons interviewed (n=169), n (%)
Heard about cervical cancer (UCC)	
Yes	138 (81.66)
No	31 (18.34)
Risk factors for cervical cancer	
Early sexual intercourse	6 (3.55)
Multiplicity of partners	8 (4.73)
Early sexual intercourse and multiple partners	21 (12.43)
Do not know	133 (79.29)
Preventing cervical cancer	
Yes	67 (39.64)
No	30 (17.75)
Do not know	72 (42.61)
Means of prevention	
Early detection	30 (17.75)
Vaccination	9 (5.33)
I do not know. I do not know	130 (76.92)
Age of cervical cancer screening start date	
25 years	16 (9.47)
Do not know	153 (90.53)
Age at which cervical cancer screening stops	
65 years old	11 (6.51)
Do not know	158 (93.49)
Benefits of cervical cancer screening	
Early care	39 (23.08)
Preventing cervical cancer	64 (37.87)
I do not know. I do not know	66 (39.05)
Frequency of cervical cancer screening	
1 year	21 (12.50)
2 years old	45 (26.79)
3 years old	54 (32.14)
Do not know	48 (28.57)
Source of information	
Healthcare personnel	25 (14.79)
Radio/TV	63 (37.28)
Entourage	51 (30.18)
No source	30 (17.75)

UCC: Uterine cervical cancer

practices. This score remained significant after adjusting for confounding factors (44.54% vs. 86%; ORa: 5.28 [3.08–9.05]; $P = 0.0001$). Women with better (favorable) attitudes had a higher rating of having better (good) practices. This rating remained significant after adjusting for confounding factors (47.30% vs. 64.21%; ORa: 2.94 [1.87–4.61]; $P = 0.001$) [Table 7].

DISCUSSION

Sociodemographic characteristics of the participants

With regard to the characteristics of the respondents, they had an average age of 35 (± 9.05) years. Previous studies have investigated women's KAPs regarding cervical cancer,^[4,9-14]

Table 3: Distribution of attitudes and practices of respondents regarding cervical cancer screening, Brazzaville

Attitude and practice	Women interviewed (n=169), n (%)
Attitudes of respondents towards cervical cancer screening	
Cervical cancer a mysterious disease	
Yes	17 (10.06)
No	152 (89.94)
Importance of cervical cancer screening	
Yes	157 (92.90)
No	12 (7.10)
Acceptance of the screening test done by the midwife	
Yes	137 (81.07)
No	32 (18.93)
Early detection promotes the chance to cure	
Yes	142 (84.02)
No	27 (15.98)
Survey respondent practice of cervical cancer screening	
Having been screened for cervical cancer	
Yes	15 (8.88)
No	154 (91.12)
Date of last cervical cancer screening	
<1 year	9 (5.33)
2-3 years	6 (3.55)
I never do the screening	154 (91.12)
If you do the screening now. When would the next screening be?	
1 year	9 (5.33)
2 years	17 (10.06)
3 years old	46 (27.22)
Other1	1 (0.59)
I do not know. I do not know	96 (56.80)
Agreeing to redo another screening after the first one in 2 years	
Yes	114 (67.86)
No	58 (33.14)
Acceptance of care in the event of a positive result	
Modern medicine	154 (91.12)
Traditional medicine	8 (4.74)
Others	7 (4.14)

some of which had a similar mean age to our study, ranging from 34 to 37 years,^[12] while others had higher average ages ranging from 41 to 44 years.^[9-10]

Knowledge of respondents

With regard to the women's knowledge, 39.64% were aware of the existence of means to prevent cervical cancer. This low level of knowledge about screening methods may be explained by the fact that there is no organized communication strategy on cervical cancer in Brazzaville and the lack of a national program to combat cervical cancer. Previous studies have explored women's

Table 4: Distribution of respondents' levels of knowledge, attitude, and practice regarding cervical cancer screening in Brazzaville

KAP levels	Score	Women interviewed, n (%)
Level of knowledge (17 points)		
Very insufficient	0-4	119 (70.41)
Insufficient	5-7	30 (17.75)
Good	8-11	16 (9.47)
Very good	12-17	4 (2.37)
Attitude level (4 points)		
Very negative	0-1	2 (1.18)
Negative	2	20 (11.83)
Positive	3	52 (30.78)
Very positive	4	95 (56.21)
Level of practice (6 points)		
Very low	0-1	73 (43.20)
Low	2-3	78 (46.15)
Good	4-5	8 (4.73)
Very good	6	10 (5.92)

KAP: Knowledge, attitudes, and practice

KAPs regarding cervical cancer,^[3,4,11-19] some of which reported knowledge rates on prevention means similar to our study, ranging from 35% to 45.8%.^[3,4,10,15,18] This similarity could be explained by the fact that these studies were conducted in Africa. Other authors have reported higher rates of knowledge of prevention methods than in our study, ranging from 46% to 76.4%.^[10,13,16] The higher knowledge rates in these studies could be explained by the fact that they are all conducted in countries more developed than Congo-Brazzaville. Lower rates ranging from 19% to 24.4% have been reported in Cameroon and Nigeria.^[4,15] By classifying the knowledge of the women surveyed into four levels, we found that 70.41% had a very low level of knowledge about cervical cancer. We found one previous study conducted in Cameroon that reported a similar level of knowledge about cervical cancer screening (73.8%) to our study.^[4] The similarly poor level of knowledge could be explained by the fact that Congo and Cameroon are both developing countries, and therefore, both countries have almost the same realities with regard to cervical cancer prevention. The very inadequate level of knowledge (70.41%) of respondents in Brazzaville about cervical cancer justifies the need to implement awareness-raising strategies likely to reach the entire population, so that the population becomes aware of the disease (cervical cancer).

Factors associated with best knowledge

Higher level of education (secondary: ORa: 1.76 [1.02-3.34], superior: ORa: 2.96 [1.54-5.68]) and being employed (ORa: 4.24 [2.60-6.93]) were associated with the best knowledge. With respect to educational attainment, some authors have reported similar results to ours.^[13,15] A similar result to ours could be explained by the fact that women with at least secondary education have greater access to the media than those

Table 5: Factors associated with women's increased knowledge of cervical cancer screening in Brazzaville

Features	Total (n=169)	Knowledge		Crude		Adjusted	
		Satisfactory (n=50), n (%)	Unsatisfactory (n=119), n (%)	OR (95% CI)	P	OR (95% CI)	P
Level of education							
Bottom	44	5 (11.36)	39 (88.64)	1			
Secondary	95	26 (27.37)	69 (72.63)	2.93 (1.04-8.27)	0.03	1.76 (1.02-3.34)	0.04
Superior	30	19 (63.33)	11 (36.67)	13.47 (4.09-44.32)	0.001	2.96 (1.54-5.68)	0.0008
Professional status							
Housewife	49	6 (12.24)	43 (87.76)	1			
Employed	28	21 (75.00)	7 (25.00)	21.50 (6.41-72.01)	0.001	4.24 (2.60-6.93)	0.0001
Student	20	8 (40.00)	12 (60.00)	4.77 (1.38-16.45)	0.009	3.18 (1.91-5.28)	0.0001
Independent activity	72	15 (20.83)	57 (79.17)	1.88 (0.67-5.26)	0.22		
Marital status							
Single	118	29 (24.58)	89 (75.42)	1.46 (0.29-7.17)	0.48		
Married	35	17 (48.57)	18 (51.43)	4.25 (0.80-22.56)	0.07		
Divorced	5	2 (40.00)	3 (60.00)	3 (0.28-31.63)	0.35		
Widow	11	2 (18.18)	9 (81.82)	1			

OR: Odds ratio, CI: Confidence interval

Table 6: Influence of participating women's knowledge level on attitudes about screening and cervical cancer, 2018

Performance Knowledge	Total (n=169)	Attitude of the women interviewed		Crude		Adjusted	
		Favorable (n=95), n (%)	Unfavorable (n=74), n (%)	OR (95% CI)	P	OR (95% CI)	P
Satisfactory	50	39 (78.0)	11 (22.0)	3.9 (1.86-8.52)	0.0002	3.8 (2.38-6.26)	0.001
Unsatisfactory	119	56 (47.1)	63 (52.9)	1			

OR: Odds ratio, CI: Confidence interval

Table 7: Influence of respondents' level of knowledge and attitude on their practice of cervical cancer screening in Brazzaville

Performance Knowledge	Total (n=169)	Practice of the women interviewed		Crude		Adjusted	
		Good (n=96), n (%)	Wrong (n=73), n (%)	OR (95% CI)	P	OR (95% CI)	P
Knowledge							
Satisfactory	50	43 (86.0)	7 (14.0)	7.64 (3.8-18.38)	0.001	5.28 (3.08-9.05)	0.0001
Unsatisfactory	119	53 (44.5)	66 (55.5)	1			
Attitude							
Favorable	95	61 (64.2)	34 (35.8)	1.99 (1.07-3.71)	0.027	2.94 (1.87-4.61)	0.001
Unfavorable	74	35 (47.3)	39 (52.7)	1			

OR: Odds ratio, CI: Confidence interval

who do not attend school. With regard to favorable economic status, a Lebanese study on cervical cancer also reported the same findings.^[16] This could be explained by the fact that women with favorable income level have greater access to health services than those without favorable income. The factors associated with better knowledge of cervical cancer identified in this study justify the need to intensify communication taking into account all segments of the population. This communication is necessary to raise the level of knowledge, even for those who do not have access to certain health services.

Attitudes of the respondents

Analysis of the respondents' attitudes showed an average level of favorable attitudes (56.21%) about cervical cancer. Some studies have investigated subjects similar to our

participants,^[4,5,11] some of which had rates higher than ours ranging from 62.5% to 95.3%.^[4,11]

Influence of level of knowledge on attitudes

We found that women with better (satisfactory) knowledge also had better (favorable) attitudes about cervical cancer screening (ORa: 3.86 [2.38–6.26]). This finding of better knowledge promoting a better attitude could be explained by the fact that better knowledge of prevention and risk factors can help women to have a good perception of the disease. This is consistent with the theory of planned behavior. The findings from a Cameroonian study are similar to ours.^[4] Our results justify the need to increase awareness through strategies to improve the level of knowledge of the population, which is important to help the population to have better (favorable) attitudes.

Practices of the respondents

With regard to the practices of the respondents, 8.87% of them reported having undergone cervical cancer screening. This low rate of the practice of cervical cancer screening by Congolese women could be due to several reasons, including the lack of a national program to combat cervical cancer, the very inadequate level of knowledge (71.41%) about cervical cancer, and the lack of cervical cancer screening units in Brazzaville's Basic (District Hospital) hospitals.

Previous studies have also investigated women's KAPs about cervical cancer screening,^[3,4,6,7,9-14,16] some of which had a screening rate similar to ours ranging from 2.6% to 9.7%.^[3,4,11,15] This similarity could be explained by the fact that in these countries, cervical cancer screening is not organized as in the case of Congo-Brazzaville. A few studies have reported higher results than ours, ranging from 39.4% to 62.4%.^[12,13,16] The higher results could be explained by a lack of knowledge of how to prevent cervical cancer and the lack of screening units in Brazzaville's base hospitals. Our results justify the need to raise awareness of cervical cancer screening, involving opinion leaders, health personnel, and the media. There is a need for equipping health services with the materials needed for screening to reduce morbidity and mortality from cervical cancer.

Influence of knowledge and attitudes on respondents' practice

Regarding the link between knowledge and practice, we found that women with better (satisfactory) knowledge had better (good) practices (ORa: 5.28 [3.08–9.05]). In other words, better knowledge promoted better practices. This result could be explained by the fact that women who were informed about the existence of the disease would take steps to avoid it. In addition, women with a better knowledge of cervical cancer would be more likely to avoid it through cervical cancer screening. This observation is consistent with the health belief model theory which suggests that when an individual has knowledge about the benefits or harm of the disease, he/she is able to adopt behavior to avoid the occurrence of the disease. This result is similar to that found in a Cameroonian study.^[4]

In terms of the relationship between attitudes and practices, women with the best attitudes had a higher rating of having better (good) practices (ORa: 2.94 [1.87–4.61]). The more women had a better attitude about the disease, the more they would agree to participate in cervical cancer screening. Better attitudes favoring best practices could be explained by beliefs about the effectiveness of available actions to reduce the threat of disease. These are the benefits perceived by respondents as outlined in the health belief model theory.^[19]

CONCLUSION

Women in Brazzaville lack knowledge about cervical cancer. Best knowledge and attitudes were associated with best practices; hence, there is a need for more awareness

and screening campaigns for cervical cancer in the city of Brazzaville.

Acknowledgments

The authors express their gratitude to all of the CIESPAC staff for supervision in the training of the masters in public health. The same is true for the users and health professionals in Brazzaville, thanks to whom this work was made possible.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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