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Original Research Article

The epidemiological profile of women screened for precancerous cervical lesions at Benjamin Ngoubou Regional Hospital in Tchibanga, Gabon

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ABSTRACT

Background: Cervical cancer is the second most common cancer after breast cancer, with about 528,000 new cases reported per year. This study aimed at determining the epidemiological profile of women screened for precancerous cervical lesions in the region of Tchibanga, Gabon.

Methods: A descriptive cross-sectional study was conducted with 144 women as sample for study Using Statistical Package for social sciences (SPSS) software version 20.0, the socio-demographic, epidemiological characteristics and gynaeco-obstetrical history of the participants were obtained and presented by simple frequencies. The relative socioeconomic status of screened females was measured using the simplified calculation of the socio-economic position index.

Results: The under 25 age group accounted for 32%. Non-menopausal women accounted for 86.8% and menopausal women 13.2% in the sample in this study. Women with at least 3 partners accounted for 88.3% of participants diagnosed with dysplasia. Participants with chlamydia accounted for 53.2% of women diagnosed with Cervical Intraepithelial Neoplasia (CIN). Multigestures and large multigestures accounted for 70.6% of participants with dysplasia. The prevalence of precancerous states was 11.8%, classified into CIN 1/condyomas, CIN 2 and CIN 3/CIS.

Conclusions: Making screening a regular activity is important. Awareness-raising sessions on the benefits of screening and the fight against sexually transmitted diseases should be conducted, as well as the early treatment of Chlamydia infections.

Keywords: Epidemiological profile, Screening, Precancerous cervical lesions

INTRODUCTION

Precancerous cervical lesions are asymptomatic anatomopathological features that precede cervical cancer (CC). They are characterized by profound transformations resulting in, among others, disorders of epithelial erection

or dysplasia in case of persistent infection with oncogenic types of human papillomavirus (HPV).^{1,2} Worldwide, cervical cancer is the second most common cancer after breast cancer, with about 528,000 new cases reported per year.³ In sub-Saharan Africa (SSA), 34.8 per 100,000 women are diagnosed with cervical cancer and 22.5 per

100,000 die each year.⁴ Results highlight the need to implement cervical cancer prevention tools, including HPV vaccination, combined with national programmes organized for the early detection of CC3. It is within this framework that the World Health Organization (WHO) has emphasized the use of the “screen-and-treat” approach as a reliable alternative for CC screening and prevention in developing countries since 2013.^{4,5} In Gabon, according to the hospital register of the Cancer Institute of Libreville (CIL), it is the second most common female cancer with about 32% cases, after breast cancer.⁶ Organized screening of CC by visual inspection methods (VIA-VIL) has been in effect in the country since 2014. Nearly 56,623 women over the age of 25 have been screened, with a prevalence of precancerous cervical lesions estimated at 2.5%.⁶ Early detection of CC was implemented in almost all primary and secondary level health facilities in Gabon, except in the region of Tchibanga. This study aims at determining the epidemiological profile of women screened in this region of Gabon.

METHODS

This was a descriptive cross-sectional study that took place over eight months from July, 2017 to February, 2018 in Nyanga Province. It was conducted at Benjamin NGOUBOU Regional Hospital in Tchibanga (CHRBNT). The target population was sexually active women who signed the informed consent form following a sensitization and information campaign on CC. The sample size was obtained using the Daniel SCHWARTZ formula⁷ a total of 144 women accepted the screening. A list of all women coming for screening was compiled on a first-come, first-served basis. Those who were to participate in the study were selected by random selection. Women who had not signed informed consent were excluded. Those who agreed to participate in the study were routinely enrolled during the period of the cervical cancer awareness campaign. The data collection procedure began with the collection of socio-demographic characteristics, medical and gynaeco-obstetrical history using a standardized and validated questionnaire, followed by screening tests.

Technical material and method of screening

Standard equipment for screening was used. As equipment, we used a good quality light source, a gynecological examination table, a stepladder, a screen and consumables for VIA-VIL such as pairs of sterile gloves, single-use CUSCO and COLLIN type speculums, cotton swabs, 5% acetic acid solution, a lugol solution, a sterilizing device and a bleach solution. All this material comes from the Lalla Salma foundation for the fight against cancer in Morocco. After an interview that specified the women's socio-demographic, gynecological and medical history, a speculum examination was carried out, during which a visual inspection was successively performed without preparation, a VIA test and finally a VIL test.

Data collection and analysis

Data collection was done using a validated questionnaire after a pre-test and cytology results sheets. Text entries and tables were made on Office Word and Excel 2013 software. Data analysis was performed on Statistical package for social sciences (SPSS) software version 20.0. The socio-demographic, epidemiological characteristics and gynecological-obstetrical history of the participants were obtained by simple frequencies. The relative socioeconomic status of screened females was measured using the simplified calculation of the Socio-Economic Position Index (SPI)⁸ using the formula:

$IPSE = Age - 6 \times NF - 4 \times CP + 55$ where NF = level of training; CP = professional category. Thus, depending on the outcome of the IPSE, the participants were ranked in the following five socio-economic levels: lower for IPSE from 1 to 35, lower middle class for IPSE from 36 to 54, middle class for IPSE ranging from 55 to 67, upper middle class for IPSE from 68 to 80 and higher, for IPSE over 80. Some variables were associated using Fisher's exact Chi² at the 5% significance level.

Ethical considerations

The study was conducted in accordance with the Good Clinical Practice Guidelines (GCP) and the regulations of the Ministry of Public Health and Population. Women who had an abnormality after screening were supported according to a protocol.

RESULTS

The under 25 age group accounted for 32%. The ranges were 18 and 70 years old. A little over ¾ of the women were married. The lower average socio-economic class was the most represented at 57.6% and the proportion of women who consumed alcohol was 30.6%. Only 2.1% of the women were smokers. (Table 1).

Only one participant had previously screened for precancerous and cancerous lesions of the cervix.

Gynaecological and obstetrical characteristics of the participants

Women who had had their menarche between the ages of 12 and 14 accounted for 58.3% of the women. The average age at menarche was 14±1.6 years. Participants who had had sex before the age of 18 accounted for 79.9% (n=115), with 64.6% of women aged 15-17. Non-menopausal women accounted for 86.8% (n=125) of the sample in this study.

Participants who had had sex before the age of 18 accounted for 79.9% (n=115), with 64.6% of women aged 15-17. Women with between 3 and 6 sexual partners accounted for 41.7% (n=60) of the total number. Participants who did not use any form of contraceptive

accounted for 77.1% (n=111) of our sample. Women with chlamydia infection, treated or untreated, accounted for 39.6%. Only one admitted having followed up for HIV infection. No woman reported co-infection (Table 2).

Table 1: Socio- demographic and economic characteristics of participants.

Variables	Number	Percentage
Age (years)		
18-24	46	32.0
25-34	36	25.0
35-44	27	18.8
45-54	28	19.4
55-70	07	4.8
Matrimonial status		
Married	112	77.8
Unmarried	26	18.0
Widow	06	4.2
Socioeconomic classes		
Lower	42	29.2
Lower average	83	57.6
Average	11	7.6
Upper average	05	3.5
Upper	03	2.1
Tobacco		
Yes	03	2.1
No	141	97.9
Alcohol		
Yes	44	30.6
No	100	69.4

Pauci gestures accounted for 22.9% (n=33) of the total number and the large multi gestures 22.2%. Nulliparous accounted for 34% (n=49) of the screened women. The proportion of women who committed at least one abortion was 55.6% (n=80). Participants with a family history of cervical cancer was 7.6 % (n=11).

Cytological results and prevalence of precancerous lesions

The prevalence of precancerous condition was 11.8%, divided into CIN 1/condylomas, CIN 2 and CIN 3 / CIS. Only one case of invasive cancer was detected (Table 3).

Dysplasia according to the characteristics of women

Women with at least 3 partners accounted for 88.3% of participants diagnosed with dysplasia. Participants with chlamydia accounted for 53.2% (n=9) of women diagnosed with CIN. The only patient followed up for HIV retrovirus was positive for CIN 1(5.9%). Multigestures and large multigestures accounted for 70.6% of participants with dysplasia. Multiparous and large multiparous accounted for 64.7% with CIN. Participants who had had an abortion at least twice accounted for 64.7% of participants with CIN.

Table 2: Gynecological and obstetrical characteristics of participants in Tchibanga in 2018.

Variables	Number	Percentage
Statut hormonal		
Menopausal	19	13.2
Non menopausal	125	86.8
Gestures		
Nulligeste	79	54.9
Paucigesture	33	22.9
Multigesture	32	22.2
Parity		
Nulliparous	49	34.0
Primiparous	59	41.0
Multiparous	36	25.0
Abortion		
None	64	44.4
1 +	80	55.6
Menarches (years)		
9-11	17	11.8
12-14	84	58.3
15-17	36	25.0
18 and +	02	1.4
Don't know	05	3.5
Age at 1st sexual contact (years)		
9-11	01	0.7
12-14	21	14.6
15-17	93	64.6
18 and +	29	20.1
Number of sexual partners		
1	26	18.1
2-6	88	61.1
7 and +	30	20.8
History of STI		
Chlamydia	57	39.6
HIV/AIDS	01	0.7
Others	19	13.2
None/Unknown	67	46.5
Methods of contraception		
Condoms	32	22.9
None	111	77.1
Family history of cancer		
Cervical	11	7.6
Breast	06	4.2
Other cancers *	07	4.9
None	120	83.3

*: leukemia, oropharyngeal cancer, prostate cancer

DISCUSSION

In this study, the average age of women screened was 34.3 years with range of 18 and 70 years. The average age varies from 35.13 years to 40.24 years, as reported by some authors.⁹⁻¹¹ Our results are explained by the fact the Gabonese population is young, with an average age of 26 years.¹²

Menopausal women accounted for 13.2% of our sample compared to 86.6% of non-menopausal women.

Table 3: Cytological results among Tchibanga participants in 2018.

Cytologic results		Numbers	Percentage	
Precancerous state	CIN* 1/condylomas	12	8.3	
	CIN 2	02	1.4	11.8
	CIN 3/CIS¶	03	2.1	
Cancer	Invasive cancer	01	0.7	0.7
	Cervicity/dystrophy	09	6.2	
Others	Normal cervix	109	75.7	87.5
	Uncollected cervix #	08	5.6	
Total		144	100.0	

*: Cervical intraepithelial neoplasia ¶ : cancer in situ, #: lost to sight

These results are closer to those of Aboubakary in Mali who found 10.4% menopausal against 89.6% of non-menopausal.¹⁰ We found 11 out of 144 participants who

Table 4: Distribution of 17 cases of dysplasia according to the characteristics of Tchibanga participants in 2018.

Dysplasia	CIN 1/condylomas			CIN 2			CIN 3/CIS			Total
	Number	(%)	P value	Number	(%)	P value	Number	(%)	P value	
Age			0.36			0.18			0.07	
18-34	05	29.4		00	0.0		00	0.0		05
35-54*	07	41.1		02	11.8		03	17.7		12
Socioeconomic class			0.49			0.75			0.65	
Lower /average lower	10	58.8		02	11.8		03	17.6		15
Average – Upper	02	11.8		00	0.0		00	0.0		02
Number of sexual partners			0.08			0.67			0.45	
1	00	0.0		00	0.0		01	5.8		01
2 +	12	70.6		02	11.8		02	11.8		16
Pregnancies			0.00			0.39			0.01	
0-2	04	23.4		01	5.9		00	0.0		05
3 +	08	47.1		01	5.9		03	17.6		12
Number of children			0.00			0.39			0.01	
0-2	04	23.4		01	5.9		01	5.9		06
3 +	08	47.1		01	5.9		02	11.8		11
Abortion			0.01			0.50			0.16	
1+	11	64.7		02	11.8		03	17.6		16
No abortion	01	5.9		00	0.0		00	0.0		01
Family history of cancer			0.00			0.01			0.07	
Yes	08	47.1		03	17.5		02	11.8		13
None	02	11.8		01	5.9		01	5.9		04
History of STIs			0.03			0.12			0.12	
Yes	06	35.3		06	35.3		04	23.5		16
No	00	0.0		01	5.9		00	0.0		01

*: no case of dysplasia from 55 years old.

had a family history of cervical cancer (7.6%) and dysplasia are related; but cervical cancer is not a hereditary cancer.¹³ In this study, 79.7% of participants had had early sexual intercourse. This age group corresponds to data from the Gabon Demographic and Health Survey in 2012, where the median age at first intercourse is 16.9 years for girls.¹² The precocity of sexual activity is an argument for early exposure of young women to HPV. For this reason, Lansac states that women who have had their first sexual intercourse between the ages of 15 and 17 have a 2-fold increased risk of cervical cancer.¹⁴

Multi partnership was found in 61.1% of the participants and 77.8% of them were married. Sexual behaviour is often correlated with marital status. These results confirm the research of Lansac and Lecompte who found that the risk of developing precancerous and cancerous cervical lesions is multiplied by 1.7 in case of multiple partners.¹⁵

History of contraception and sexually transmitted infections

Women who did not use contraception were the majority with 77.1%. Of those who used contraception, none used oral contraceptives.

This finding could explain, among other things, the high prevalence of HIV in the city of Tchibanga, estimated at 4.2% by GDS12. In literature, Lehtinen et al in 2011 found a significant risk of developing CIN 2 in patients with chlamydial infection, although this association was not found with more severe dysplasia.¹⁶ The proportion with history of STIs, including chlamydiosis, was increased to 53.5% of participants. A study by Bahmanyar et al in 2012 reports a significant risk of cervical injury in case of a history of sexually transmitted infection. With regard to HIV/AIDS infection, only one patient admitted being followed up for this pathology (0.7%). This rate is well below the recognized prevalence for this pathology, which is 4.2% for the city of Tchibanga in 2017; a result that could be explained by the fact that in Gabon, patients with this condition are especially monitored in outpatient treatment centers (ACTs) in general, and that this condition remains a taboo in rural areas.¹² Leno et al recommend screening for cervical cancer in HIV-infected women as an established practice.¹⁷

Regarding gestures, paucigesture women were the most represented in this study with 22.9%. Furthermore, nulliparous women were the most represented with 34%. These results can be explained by the high rate of abortion in this study, which was 55.6% overall for women who had a least one induced abortion. Multiparous and large multiparous participants together accounted for 31.3% of the sample. According to Tebeu et al in Cameroon, the precocity of obstetric trauma of the cervix and its repetition over time increases the risk of developing precancerous lesions.¹⁸ The parallel can be made with other causes of cervical trauma such as abortion. In our study, 3 of the women screened were tobacco users, giving a prevalence of 2.1% lower than the survey of the Ministry of Health in Gabon which found 5% in rural areas and 3% in urban.¹⁹ These figures reflect a low proportion of women smokers in Gabon. Schiffman et al have demonstrated the existence of tobacco components in the cervix of long-time smoking women.²⁰

Most women with pre-cancerous conditions belonged to the lower class (82.4%), while none was found among women in the upper class. Multiparous and large multiparous accounted for 64.7%. This proportion was even higher, at 82.4% for women who had had at least one induced abortion. The multi partnership was found in 88.2% of them, and the same proportion was found for those who had a history of STIs/STDs. Of the 3 smokers, 2 were respectively diagnosed positive for CIN1 and CIN3 / CIS (66.7%). These characteristics are consistent with the data from the literature that classify them as co-factors in the occurrence of precancerous and cancerous cervical lesions.²¹

Limitations of the study

This study may have selection bias related to volunteering, as female volunteers may have different characteristics

from non-volunteer women; -related to sampling as the women who did not feel sick may have been less likely to participate in screening.

CONCLUSION

The prevalence of precancerous lesions was 11.8%. Postmenopausal women represented only 13.2%. The main antecedents of women were STIs at 53.5%, multipartnership at 91.9% and the notion of familial cancer at 16.7%. Dysplasia was related to multigestation, multiparity, the notion of previous abortion, a family history of cancer and an antecedent of STIs. In view of these results, the health authorities in Tchibanga should make screening a regular activity. This activity should be coupled with the fight against STIs and the promotion of contraceptive methods.

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