Knowledge on Cervical Cancer and its Prevention Amongst Females Attending Limbe Regional Hospital in the South-West Region of Cameroon

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ABSTRACT

Background: Cervical cancer is a malignant tumour characterized by abnormal growth of cells that affects the terminal portion of the uterus, known as the cervix. It is one of the five most common cancers worldwide. In Cameroon, it has an incidence and mortality of 24 and 19 per 100,000 females per year. It is one of the most treatable and preventable forms of cancer, as long as it is detected early and managed effectively. This study aimed to determine the knowledge of cervical cancer among females at the Limbe Regional Hospital with respect to its cause, prevention, presentation, treatment, and barriers to routine cervical cancer screening.

Methods: A hospital-based cross-sectional study was carried out among 238 females, selected using a convenient sampling technique. Data were collected through the administration of an interviewer administered questionnaire, designed using Epi Info version 7.2.5.0. The questionnaire evaluated knowledge about the cause, prevention, presentation, and treatment of cervical cancer. Descriptive statistics were used to present the frequencies and percentages for categorical variables.

Results: The mean age of the participants was 28.5 years (standard deviation = 8.0). Only 82 (34.5%) had good knowledge about cervical cancer. The most commonly reported barrier to cervical cancer screening was the lack of proper education on the procedure (95, 39.9%). Other frequently reported reasons for failing to perform routine check-ups included lack of money (46, 19.3%), the procedure being uncomfortable (45, 18.9%), invasion of privacy (44, 18.5%), and negative attitudes of health personnel (36, 15.1%).

Conclusion: This study found that many women lack knowledge about cervical cancer and how to get screened. To tackle these issues, focused efforts such as community awareness campaigns and affordable screening services are needed to enhance the fight against cervical cancer.

Key words: Knowledge, Cervical cancer, Barriers, Prevention, Screening.

INTRODUCTION

Cervical cancer is a malignant tumour characterized by abnormal growth of cells that affects the terminal portion of the uterus, known as the cervix. Being one of the five most common cancers worldwide (breast, cervical, liver, non-hodgkin lymphoma and prostate cancer). It has an incidence and mortality of 24 and 19 per 100,000 females in Cameroon per year [1-2]. This high incidence and mortality is due to the high prevalence of Human papillomavirus infections [3] which is observed in 99.7% of cervical cancer's incidence [4-5]. Prolonged

infection with the Human papilloma virus is usually associated with risk factors such as sexually transmitted infections, multiple deliveries and ageing, which might lead to cervical cancer [6]. To prevent the precancerous lesions induced by persistent HPV infection, every female as of age 21 should be recommended by her physician to perform regular screening tests such as Pap smear, visual inspection testing, HPV DNA testing and HPV vaccine administered to virgins. Treatment choice depends on the stage of the cancer, there are mainly three being chemotherapy, radiotherapy and surgery [6]. Cervical cancer's increasing incidence is primarily due to the underutilization of screening, diagnosis, preventive and treatment methods [7-8]. This can be associated with the females below-average level of awareness concerning this cancer. Hence the aim of this study being to assess the knowledge females have relative to cervical cancer and its possible modes of prevention, as this will provide a firm stand and enable adequate measure to be taken into action such as mass education to ensure the cancer is diagnosed early through routine screenings and thus reduce cervical cancer's burden [9]. Implementing consistent mass education will boost the level of awareness females possess for cervical cancer and how it is prevented. Once it is achieved every female will take necessary measure to avoid cervical cancer, thereby guaranteeing its eradication. Despite the revolutionary progress made in the diagnosis, treatment and prevention of cervical cancer over the years, its mortality and morbidity are still on the rise [10-11]. This is evident with cervical cancer being classified as the fourth leading cause of oncological death after breast cancer in females [12]. Thus, a need for assessing the knowledge of cervical cancer, its cause, prevention, presentation, treatment and barriers to it's screening amongst females attending Limbe Regional Hospital in the South-West Region of Cameroon. Limbe Regional Hospital is one of the main healthcare facilities that provide services to a heterogeneous population of females and therefore offers a convenient sample of these women to evaluate the knowledge and prevention practices related to cervical cancer. The current study offers region-specific information, fills gaps in knowledge about the awareness levels in the area, and informs targeted interventions to improve cervical cancer prevention in Cameroon

MATERIALS AND METHODS

Study design and settings

A hospital-based cross-sectional study was carried out in Limbe Regional Hospital (LRH), South West Region of Cameroon, from March to June 2020. This Limbe Health District (LHD) is made up of eight health areas which include: Bota, Mabeta, Idenau, Bojongo, Sea port, Moliwe, Batoke and Zone II. The LHD is located between Mount Cameroon to the North and the Atlantic Ocean to the South.

Study population and sampling

This study used a convenient sampling technique to recruit a total of 238 females aged 19-65 years attending the Regional Hospital Limbe. The sample size was calculated using the Cochran's formula.

$$n = \frac{(1.96)^2(0.81)(1-0.81)}{(0.05)^2} \approx 237$$

For a z-value of 1.96 as the standard normal variate at 95% confidence interval, error margin of 5% (e), and a prevalence of 81% [13]. A minimum sample size of 237 participants was required.

Ethical consideration

The study protocol was approved by the Institutional Review Board of the Faculty of Health Sciences of the University of Buea. An additional administrative approval was provided by the Regional Delegation of Public Health for the South-West Region (Ref: R11/SWR/RDPH/PS/948/856). Potential participants were told the aims and benefits of contributing to the study, and written consent was signed by study participants who volunteered to take part in the study.

Data collection

Data were collected using structured questionnaires built using epi info (Version 7.2.5.0). The questionnaire was

pretested to ensure validity and reliability, then used to collect data. It was made of five sections, organized systematically. Socio-demographic characteristics of study participants were measured using section A of the questionnaire. Section B to assess their knowledge on cervical cancer, section C to assess their knowledge on the risk factors of cancer, section D knowledge on the symptoms, section E to assess their knowledge on the mode of prevention of cancer. A total of 23 questions were asked. A cutoff point of 14 was classified as good knowledge following the bloom's criteria, which is a widely accepted criteria in knowledge-based research. This was based on the individuals comprehension of the condition.

Data management and analysis

The data collected from participants were coded accordingly, and the questionnaire was double-checked for proper filling, missing values were coded as missing. The data was entered into Microsoft excels 2016 for cleaning, and imported to the Statistical Package for Social Sciences (SPSS version 26) and analyzed. Descriptive statistics was utilized to present the frequencies and percentages for categorical variables.

RESULTS

Socio-demographic characteristics of study participants

The mean age of the participants was 28.5 (SD±8.0) years, with ages ranging from 19 to 65 years. Majority, 125(52.5%) of the participants were aged between 21 and 30 years. A higher proportion (47.9%) of the women were employed. Most, 162(68.1%) of the participants were singles and majority, 158(66.4%) had a university level of education. Majority, 156(63.9%) did not report with a vaginal delivery. Only a minority, 53(22.3%) of the women had been screened for cervical cancer and a majority, 20(37.7%) frequently mentioned screening method was Pap smear (Table 1).

Knowledge on the causes of cervical cancer

Majority, 189(79.4%) of the women had heard about cervical cancer with almost half [98(51.9%)] of them correctly citing that the human papillomavirus was the cause of the cancer. A good number, 86(45.5%) of the participants also knew that cervical cancer was not sexually transmitted (Table 2).

Participants knowledge on the prevention of cervical cancer

Majority, 140(74.1%) of these women knew that cervical cancer could be prevented using adequate methods with half [96(50.8%)] of them citing vaccination as an adequate preventive strategy. Most, 107(56.6%) of the participants also knew that cervical cancer could be prevented through education of women. Performing regular hospital check-up was also cited by many, 111(58.7%) of the women as a preventive method for cervical cancer (Table 3).

Knowledge concerning the treatment methods of cervical cancer

About half, 95(50.3%) of the participants had heard about vaccination against the Human Papillomavirus (HPV), with only 42(22.2%) citing that the vaccine was 70% effective. Majority, 151(79.9%) of these women knew that cervical cancer was treatable once diagnosed early. Close to half, 97(51.3%) of the woman cited chemotherapy as a treatment method for cervical cancer. (Table 4).

Knowledge on the risk factors of Cervical Cancer

Figure 1, presents the predisposing factors of cervical cancer reported by the participants. The most reported risk factors for cervical cancer among the women were, having sex with multiple sexual partners (27.4%). A number (14.3.%) of the participants also cited STDs as a risk for cervical cancer.

Knowledge about the signs and symptoms of cervical cancer

A number 87(36.4%) of the women knew abnormal vaginal bleeding as a sign and symptom of cervical cancer.

Abnormal pains were also thought of as a sign and symptom by 32(13.6%) of participants. Pains during sexual intercourse was mentioned by 11% of participants as a sign and symptom of the disease (Figure 2).

Overall knowledge on cervical cancer

Out of 238 respondents, only 82 (34.5% women) demonstrated good knowledge, while the majority 156 (65.5% women) had poor understanding. This indicates that nearly two-thirds of the surveyed females lack adequate knowledge about cervical cancer (Figure 3).

Reasons for missing routine cervico-vaginal smear testing against cervical cancer

Figure 4 shows the different reasons why women fail to show up in the hospital for routine cervical cancer checkups. A Majority 89(37.6% 95% CI: 29.6%-46.1%) of the women were reluctant to present for routine cervical cancer checkups without any specific reason.79 (33.3%, 95% CI: 25.6%-41.8%) were not aware of the routine cervico-vaginal smear.

Perceived barriers of screening against cervical cancer

The most reported barrier to the cervical cancer screening was the lack of proper education on the procedure 95(39.9%), Lack of money 46(19.3%), uncomfortable process 45(18.9%), invasion of privacy 44(18.5%) and negative attitudes of health personnel 36(15.1%) were among the frequently reported reasons for failing to perform routine checkups for cervical cancer (Table 5).

Factors associated with knowledge on cervical cancer

The chi square analysis didn't show any significant association with knowledge on cervical cancer (Table 6)

Table 1: Socio-demographic characteristics of study participants

Variable	Category(N=238)	Frequency (%)
Age group (years)	<21	39(16.4)
	21-30	125(52.5)
	31-40	59(24.8)
	41-50	12(5.0)
	>50	3(1.3)
Occupation	Employed	114(47.9)
	Self-employed	21(8.8)
	Unemployed	103(43.3)
Marital Status	Married	76(31.9)
	Single	162(68.1)
Level of Education	No formal education	15(6.3)
	Primary	2(0.8)
	Secondary	63(26.5)
	Tertiary	158(66.4)
Number of vaginal deliveries	None	156(63.9)
	1	21(8.8)
	2	23(9.7)

	3	23(9.7)
	>4.	19(8.0)
Screened for cervical cancer	No	185(77.7)
	Yes	53(22.3)
Type of screening test	Cervico-Vaginal Smear	25(47.2)
	Pap smear	20(37.7)
	Visual Inspection Test	8(15.1)

Table 2 : Knowledge on causes of cervical cancer among Females in Limbe

Variables	Yes, N(%)	95% CI (%)
I have heard about cervical cancer	189(79.4)	73.7-84.4
Cervical cancer is due to an infection by a virus or bacteria	83(43.9)	36.7-51.3
Cervical cancer is caused by the HPV	98(51.9)	44.5-59.2
Cervical cancer is not sexually transmitted	86(45.5)	38.3-53.0

CI = Confidence Interval

Table 3: Participants knowledge on the Prevention of Cervical Cancer

Variables	Yes, N(%)	95% CI (%)
Cervical cancer is preventable through adequate methods	140(74.1)	67.2-80.2
Cervical cancer can be prevented through vaccination	96(50.8)	43.4-58.1
Cervical cancer can be prevented by use of condom	77(40.7)	33.7-48.1
Cervical cancer can be prevented by not smoking	80(42.3)	35.2-49.7
Cervical cancer can be prevented through education	107(56.6)	49.2-63.8
Cervical cancer can be prevented via regular exercise	64(33.9)	27.2-41.1
Cervical cancer can be prevented by eating healthy diet	94(49.7)	42.4-57.1
Cervical cancer can be prevented by doing regular hospital check-up	111(58.7)	51.4-65.8
Cervical cancer can be prevented by avoiding alcohol abuse	51(27.0)	20.8-33.9

CI = Confidence Interval

Table 4: Knowledge concerning the Treatment Methods of Cervical Cancer

Variables	Yes, N(%)	95% CI (%)
Heard about vaccination against the human papilloma virus	95(50.3)	42.9-57.6
HPV vaccine is 70% effective	42(22.2)	16.5-28.8

HPV vaccine leaves 30% vulnerable population to the infection	18(9.5)	5.7-14.6
Vaccinating against HPV at tender ages prevent exposure	74(39.2)	32.2-46.5
Cervical cancer can be treated if diagnosed early	151(79.9)	73.5-85.4
Chemotherapy is a treatment method for cervical cancer	97(51.3)	44.0-58.6
Radiotherapy is a treatment method for cervical cancer	57(30.2)	23.7-37.2
Surgery is a treatment method for cervical cancer	76(40.2)	33.2-47.6

CI = Confidence Interval

Table 5: Perceived Barriers Of Screening Against Cervical Cancer

| **Variables**	**Yes N(%)**	**95% CI (%)**
I am still young	28(11.8)	8.0-16.6
It is uncomfortable	45(18.9)	14.1-24.5
I am ashamed	30(12.6)	8.7-17.5
I am pregnant	17(7.1)	4.2-11.2
Negative attitude from the health personnel	36(15.1)	10.8-20.3
Not properly educated with regards to the procedure	95(39.9)	33.6-46.4
My home is far away from the facilities	7(2.9)	1.2 -6.0
I don't have enough money	46(19.3)	14.5-24.9
The procedure invades my privacy	44(18.5)	13.8-24.0

CI = Confidence Interval
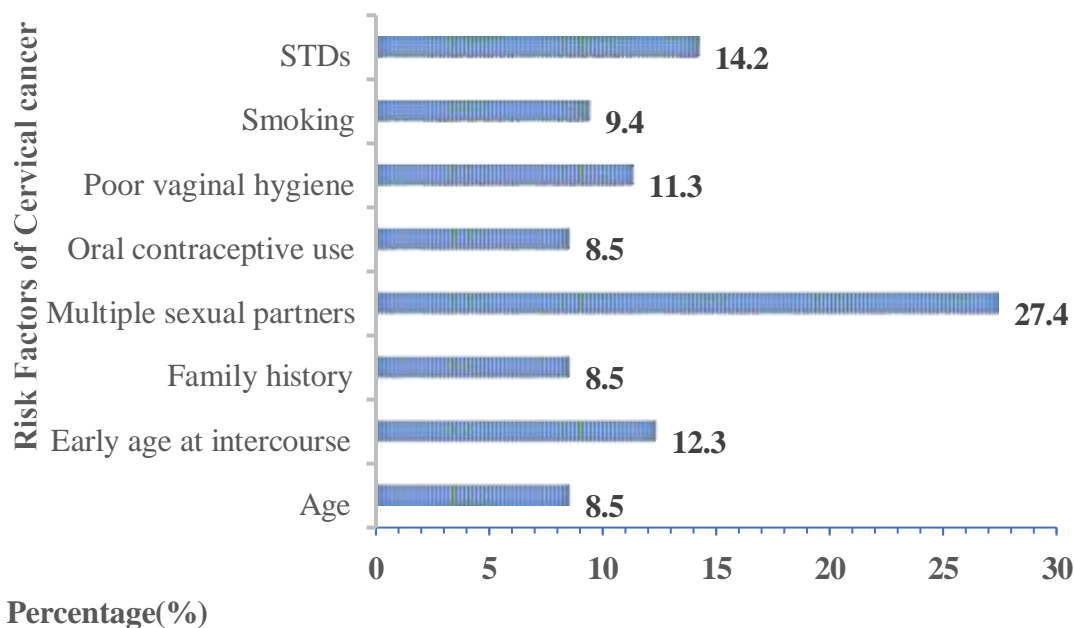
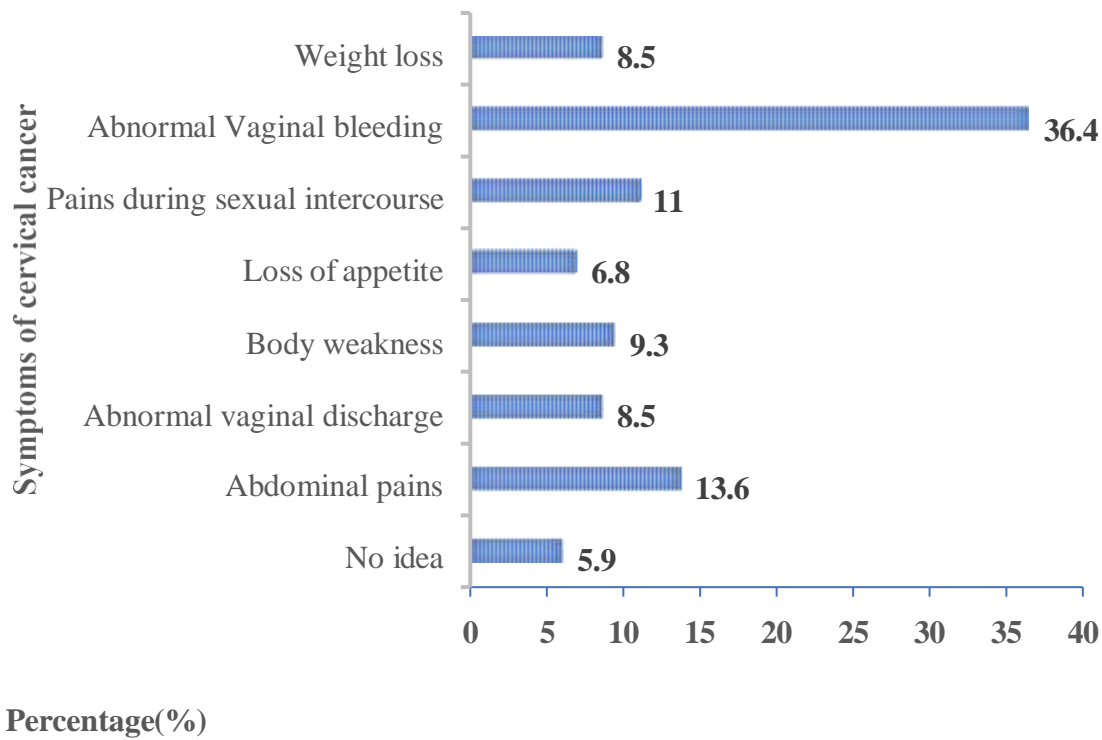Figure 1. Knowledge on the risk factors of cervical cancer

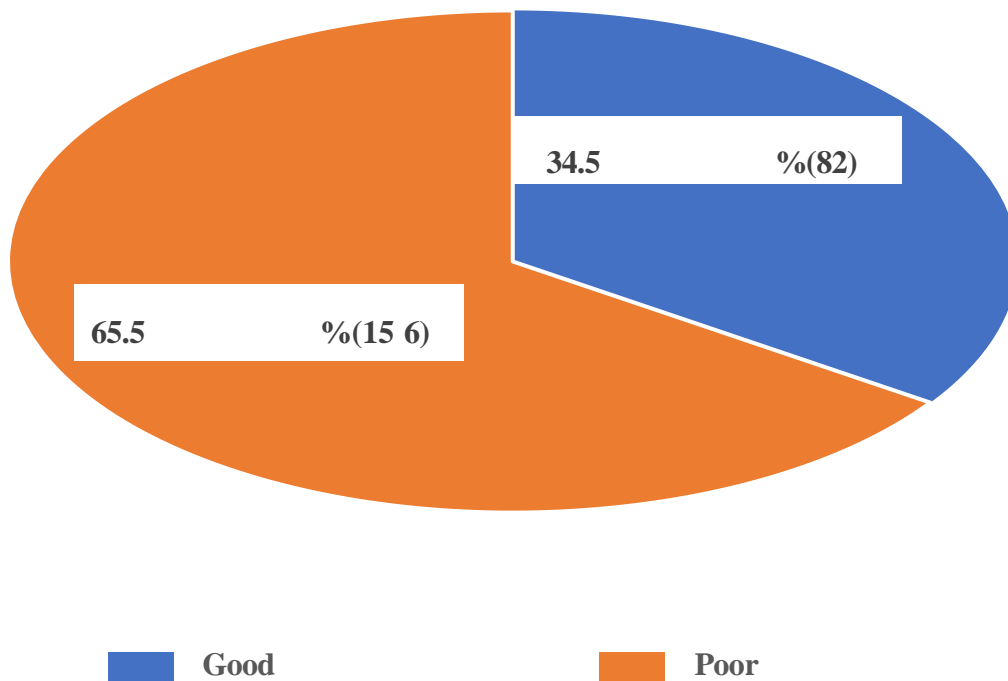**Figure 2. Knowledge about the signs and symptoms of cervical cancer**

Figure 3. Overall knowledge on cervical cancer.

Table 6. Factors associated with knowledge on cervical cancer

Category	Variable	Knowledge				
		Good (%)	Poor (%)	Total (%)	χ^2	p-value
Age Category	<21	9 (23.1)	30 (76.9)	39 (100)	5.235	0.264

|	21-30	46 (36.8)	79 (63.2)	125 (100)		
	31-40	24 (40.7)	35 (59.3)	59 (100)		
	41-50	2 (16.7)	10 (83.3)	12 (100)		
	>50	1 (33.3)	2 (66.7)	3 (100)		
	Total	82 (34.5)	156 (65.5)	238 (100)		
Marital Status	Married	30 (39.5)	46 (60.5)	76 (100)	1.246	0.264
	Single	52 (32.1)	110 (67.9)	162 (100)		
	Total	82 (34.5)	156 (65.5)	238 (100)		
Level of Education	No formal education	9 (60.0)	6 (40.0)	15 (100)	6.114	0.106
	Primary	1 (50.0)	1 (50.0)	2 (100)		
	Secondary	17 (27.0)	46 (73.0)	63 (100)		
	Tertiary	55 (34.8)	103 (65.2)	158 (100)		
	Total	82 (34.5)	156 (65.5)	238 (100)		
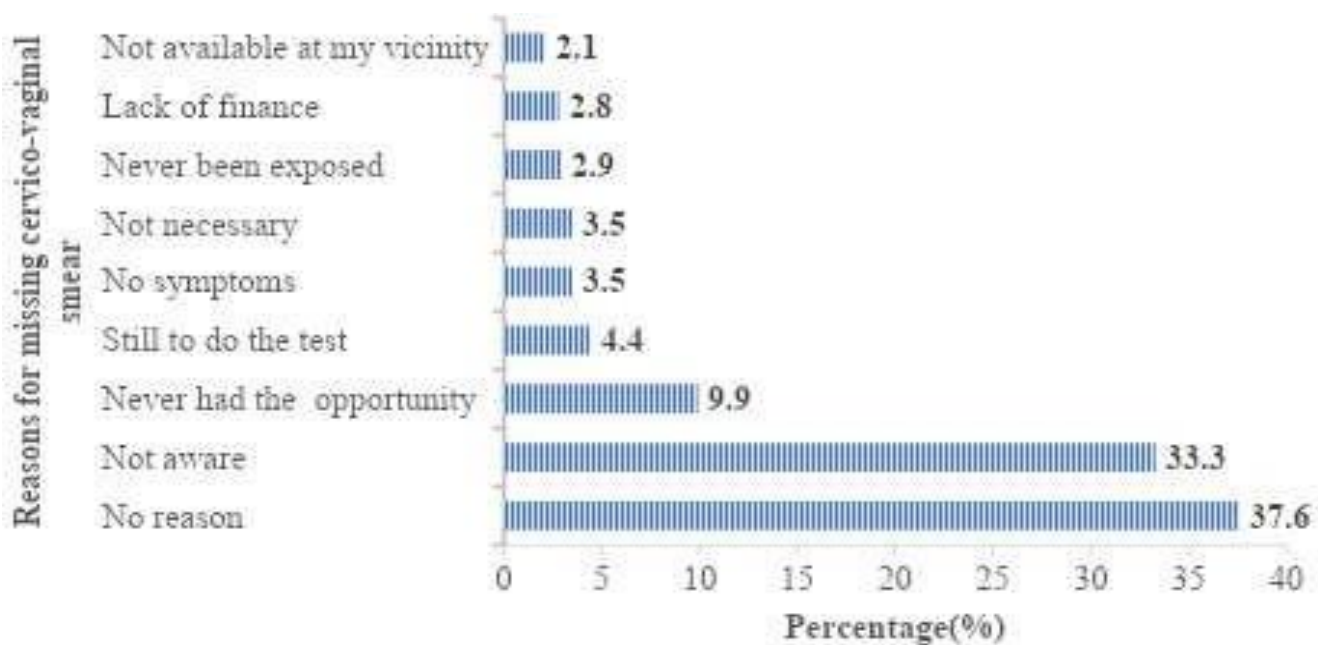
Figure 4. Reasons for missing routine cervico-vaginal smear testing against cervical cancer   Discussion Knowledge Level on Cervical Cancer

RESULTS

from the current study at Limbe Regional Hospital in South-West Region of Cameroon show that 34.5% (82 out of 238) of female participants had good knowledge on cervical cancer. This low knowledge was consistent with the wider sub-Saharan Africa where cervical cancer continues to pose great public health challenge because of lack of awareness and knowledge. For example, in a qualitative research conducted in Dschang, West Cameroon, lack of general knowledge on cervical cancer among women and men alike was a major barrier to screening [14]. A study conducted in Kumbo West Health District (KWHD) in Cameroon indicated an even higher cervical cancer screening uptake compared to the national level however also low knowledge about risk factors and symptoms among women [3]. This indicates that even though some areas may have nominally higher screening uptake, there are areas of knowledge deficiency. Globally, similar low knowledge levels (with only a minority of women being aware of the association between human papillomavirus (HPV) and cervical cancer) have been

found among women in other LMICs such as in Tanzania [15] and Ghana [16] The Limbe study's prevalence of 34.5% with good knowledge is a bit higher than some of these estimates, raising the possibility of selected awareness in the regional hospital.

Barriers to Cervical Cancer Routine Screening

The Limbe study found the lack of education on cervical cancer screening procedures as the biggest barrier, as reported by 39.9% (95 women) of the participants. Some other hurdles noted were lack of money (19.3%), discomfort with the screening process (18.9%), invasions of privacy (18.5%), and negative attitudes from health personnel (15.1%). These findings go in tandem with literature about barriers to cervical cancer screening in Cameroon and other sub-Saharan African countries, which have time and again underscored the multiple challenges at the individual, community, and structural levels. low screening participation can be explained by the Health Belief Model because the perceived barriers (e.g., cost and embarrassment) are higher than the perceived benefits and risk of cervical cancer in participants with poor knowledge. In Dschang, a study found that low health education is a major reason why women aren't getting screened for cervical cancer. Many of them don't know what the symptoms are or why early detection is important, so they don't seek out screening [14]. A review on cervical cancer screening in sub-Saharan Africa pointed out that a lack of knowledge about cancer risks and where to get screened is also a big problem [17]. In Limbe, around 40% of women said that not having enough education stopped them from getting screened, showing that efforts to share information aren't enough, especially in rural areas where education levels are typically lower. This backs up what Kim and collaborators say about how important it is to improve health literacy to get more women involved in cervical cancer screening programs [18]. In Limbe, 19.3% of people said financial issues are a big problem, which is common across Cameroon. According to the 2018 Cameroon Demographic and Health Survey, many cervical cancer screenings cost money, even though some public hospitals do offer them for free. This cost really hits rural women the hardest [19]. On the flip side, a study in urban clinics in South Africa found that when services were subsidized, more people got screened. This shows that lowering costs could help get more people involved [20]. The findings from Limbe highlight that even in local hospitals, money problems are still a major issue, which suggests we need policies that provide subsidized or free screening programs. In Limbe, the challenges are much clearer when you compare it to wealthier countries. For instance, a study in Australia found that many immigrant women struggled with not knowing enough about health risks, but free screening programs helped them get access to care [21]. On the other hand, Cameroon doesn't have a national screening program, and not many people are getting the HPV vaccination, which makes things tougher in Limbe [19]. The WHO wants to see 70% of women screened to help wipe out cervical cancer, but in Cameroon, only about 19.6% of women are currently getting screened [19]. The discomfort some people feel about the screening process (18.9%) and worries about privacy (18.5%) show how cultural and personal views play a role in sub-Saharan Africa. In a study done in Limbe about self-sampling acceptance, women, especially those with HIV, were worried about privacy when it came to screenings done by healthcare providers. They felt more comfortable with self-collection methods [17]. Likewise, a study in Ghana found that fear of discomfort and embarrassment during pelvic exams kept women from getting screened [16]. The Limbe study suggests we need to find ways to make screening feel more comfortable and private, like offering private spaces or self-sampling choices. Negative attitudes from health workers were noted by 15.1% of people in the Limbe study as a big issue. A study in Tanzania also found that if women have bad experiences with healthcare staff, they start to lose trust in the health system, which makes them less likely to get screened [15]. The results have some serious implications on the national cervical cancer control plan in Cameroon, which requires the planning to incorporate multi-levels in addressing knowledge gap by promoting knowledge through education campaigns, eliminating financial barriers by offering subsidized services, and improving their training to enhance attitude and cultural sensitivity. In line with the objectives of WHO, the plan must focus on the creation of a coordinated national screening program, including the implementation of HPV vaccination, and the promotion of innovative tools, such as self-sampling, to increase uptake, especially in the underserved areas in the South-West, and eventually achieve a decrease in the occurrence and death rates of cervical cancer.

Limitations

A convenience sampling technique - restricts the applicability of our study on the larger population of females

in the Limbe Health District because the sample is likely to be biased by the method of selection.

CONCLUSION

This study at Limbe Regional Hospital found that many women in the South-West Region of Cameroon don't know much about cervical cancer or how to get screened. Out of 238 women surveyed, only about 82(34.5%) had a good grasp of the topic, while 156(65.5%) had a poor understanding. This shows that there's a clear need for better health education. Almost 40% of people said the biggest issue preventing regular cervical cancer screenings is a lack of proper education about the process. Other factors include costs (19%), discomfort during the exam (19%), worries about privacy (18.5%), and negative attitudes from health workers (15.1%). These results show how personal, cultural, and system-wide issues are holding back cervical cancer prevention in this area. To tackle these issues, we really need focused efforts like community awareness campaigns, integration of subsidized Pap smear clinics into district health services, HPV self-sampling that fits different cultures, and training for healthcare providers to better connect with patients. By putting these strategies in place, Cameroon can boost its fight against cervical cancer and work towards better health for women in the South-West Region.

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