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Original Research

Knowledge, Attitude and Practice Concerning Cervical Cancer Screening Among Reproductive Age Group Women in Low-Resource Settings Yenagoa Bayelsa State

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Abstract

Background: Nigeria has one of the highest rates of cervical cancer morbidity and mortality in Sub-Saharan Africa. Both the human papillomavirus vaccine (HPV) and cervical screening are effective prevention strategies against both HPV infection and cervical cancer. Lack of awareness, limited knowledge, limited decision-making agency, lack of spousal support and stigma are barriers to uptake of these preventive measures. Cervical cancer is the second most diagnosed cancer and the third leading cause of cancer death in women worldwide. Eighty three percent (83%) of the world's new cases and 85% of all cervical cancer-related deaths occur in developing countries. It is primarily caused by human papilloma virus (HPV); a sexually transmitted pathogen that could be prevented with safe sexual practice and using vaccines, among others. The aim of the study was to assess the knowledge and attitude of reproductive age group women in low resource setting in towards cervical cancer and its prevention in Yenagoa, Bayelsa State Nigeria.

Methodology: This study employed the use of a descriptive study design to examine the knowledge and assessment of cervical cancer among women of reproductive age (19-54), about cervical cancer, its prevention, and their utilization of Pap smear screening; using a convenience sample of 406 women in two communities (Okaka and Agudama) in Yenagoa Local Government Area of Bayelsa State, Nigeria. Women voluntarily completed a structured questionnaire.

Result: Results showed that women who participated in the study were aware of cervical cancer (78.3%; n=318) but many (70.4%; n= 286) were unaware of Pap smears as the screening tests for cervical cancer. Although few of them (45.6%; n =185) knew about a screening center, out of which 17.6% (n= 32) reported that the screening center was less than 2km away from their residences.

Conclusion: There is need for health care professionals, to intensify efforts to increase awareness about cervical cancer screening and encourage women through the different clinics to use these services. The benefits of screening and early diagnosis of cervical cancer should be emphasized to enhance the utilization of cervical cancer screening services.

Keywords: Cervical Cancer; Human Papilloma Virus; Pap Smear; Reproductive Aged Women.

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Introduction

Cervical cancer is a cancer of the cervix, the organ connecting the uterus and the vagina. It is caused by human papilloma virus (HPV), which is a sexually transmittable infection-causing pathogen. Therefore, effective interventions on prevention of HPV infections can prevent cervical cancer. Worldwide, cervical cancer is the fourth most common cancer in women. Approximately 570,000 cases of cervical cancer and 311,000 deaths from the disease occurred in 2018 [1]. In developing countries cervical cancer remains the second most common cancer in women [2] Cervical cancer incidence and mortality highlight the great disparities that exist between developed and developing countries [3]. Analysis of data from the Global Cancer Observatory 2018 database showed that the age-standardized incidence rate (ASIR) and age-standardized mortality rate (ASMR) of countries in the very high human development index (HDI) tier were 9.6 per 100 000 women and 3.0 per 100 000 respectively, while in countries in the low HDI tier, ASIR was 26.7 per 100 000 and ASMR, 20.0 per 100 000 [4]. High-income countries have experienced a steady decline in incidence and mortality from cervical cancer, which is attributed to well-organized screening programs and infrastructure that provide appropriate follow-up and treatment [3].

According to the Global Strategy for cervical cancer elimination adopted in 2020 by the World Health Assembly, every country should meet the 90-70-90 targets by 2030 i.e. "90% of girls fully vaccinated with the HPV vaccine by the age of 15, 70% of women screened using a high-performance test by the age of 35, and again by the age of 45, 90% of women with pre-cancer treated and 90% of women with invasive cancer managed" [5–6]. According to this strategy, "all countries must reach and maintain an incidence rate of below 4 per 100 000 women in order to eliminate cervical cancer" [5–6]. In Nigeria however, the age standardized rates for cervical cancer are much higher, at 36.0 per 100,000 [7] and like several developing countries, uptake of cervical cancer screening is low [8-13] and many cases of cervical cancer present late, with attendant complications and mortality [14]. In Nigeria, about 12,075 new cases of cervical cancer are diagnosed annually and about 7,968 deaths from cervical cancer occur annually [15]. It is projected that by the year 2025, cervical cancer deaths in Nigeria would rise by 63% and 50% for women aged ≤ 65 and > 65 years respectively [16].

In Nigeria, the cervical cancer control program is not well developed. Opportunistic screening is being practiced in hospitals when women present with gynecological complaints. Cervical cancer screening is available in government tertiary hospitals, which are only a few in each State of the country. A few governments owned secondary health facilities can provide cervical cancer screening. Some private hospitals and diagnostic laboratories also provide cervical cancer screening services. Government and non-governmental organizations infrequently organize cervical cancer screening outreaches in communities and sometimes in slum areas. Cervical cancer disproportionately affects women of low socioeconomic status. Poverty along with other socio-cultural practices such as early marriage and high parity have been identified as factors that increase women's vulnerability to cervical cancer [17]. Women residing in urban slums who often have low levels of education and income are more likely to have less awareness of cervical cancer and its prevention which in turn may lead to inadequate screening [17]. Women in low resource settings also often have poor access to healthcare [18].

Though many intervention studies carried out to improve cervical cancer screening have shown increased uptake rates [19,20,21], some did not achieve their aim. [22,23,24] These studies were only able to improve knowledge of cervical cancer screening, but this did not translate to improved practice [22,23,24]. Community-based interventions to improve uptake of cervical cancer screening will benefit from initial situation analysis to assess opportunities and threats to a successful intervention. Understanding the perspectives of the community members themselves about screening for cancer of the

cervix would be a good place to start as this forms an important aspect of community participation. Community participation refers to the involvement of people in a community in projects and programs to solve their problems [25]. The community can participate during the needs assessment, planning, mobilizing, training, and implementation [25]. Community participation in the form of community conversations is shown to empower communities by allowing them to identify challenges and ways of solving them [26].

Therefore, the aim of this study is to assess the knowledge, attitude, and practice of cervical cancer among reproductive aged women in Yenagoa, Bayelsa State Nigeria a developing country in West Africa. As this is a necessary step to move towards global eradication of cervical cancer.

Materials and Method

***Study Design*:** This study utilized a descriptive cross-sectional survey design. Participants were reproductive women, aged 15-49, residing in Yenagoa Local government area of Bayelsa State in Nigeria who consented to take part in the study.

***Study setting*:** Yenagoa is a coastal settlement in the Niger Delta region of Nigeria. It is located within latitudes 4– 55^0 and 5– 02^0 north and longitudes 6– 15^0 and 6– 25^0 east. Yenagoa is the administrative headquarters of Bayelsa State with a population density of 742 persons per sq. km). Its inhabitants are majorly Izon with lesser population of Hausa, Ibo and other tribes. The inhabitants in this area are mostly involved in trading, teaching, farming, artisanship, and civil services. Pap smear services are only available in a few public healthcare facilities, mostly among tertiary hospitals. Some secondary and tertiary level private hospitals and several diagnostic centres across the state also provide pap smear services at an expensive rate.

The study was carried out in two slum communities in Yenagoa- Agudama community and Okaka community. Both communities are characterized by poor housing conditions and a lack of basic social amenities like wholesome pipe-borne water, good drainage, and adequate sanitation and women who reside in both communities are mostly traders and have low income.

This research was carried out from January 2024 - April 2024

***Selection of participants*:** Two slums were selected from all the identified slums in the two communities. In each slum, participants were purposively selected. The targeted population for this study comprises of women of reproductive age between 15 and 49 years of age in Yenagoa LGA, Bayelsa state. Women who did not fit these criteria were excluded from the study. The eligibility criteria were women aged 19–54 years who had resided in one of the two selected slums for at least one year and who were married/cohabiting or were sexually active.

Sample size and Technique: The sample size for this study was determined using a standard formula, Taro-Yamane formula: n=N/ [1+N (e) 2] For a cross-sectional study, where n= sample size of adjusted population, N= population size and e=accepted level of error taking alpha as 0.05. The total number of women in the LGA, based on Nigeria's National Census (2006) was 77,523. Substituting this figure in the formula, a total of sample 398 was obtained. This was increased to 450 since convenience sampling was used to identify the respondents. For this study, two communities (Okaka community and Agudama community) in the LGA were selected by simple balloting. The houses ineach selected community were numbered and systematic random sampling was adopted to select households where women, who were

15 years of age or older and who consented, were interviewed until the sample size had been reached. A total of 453 women were met in the selected households, out of which 406 who consented to participate in the study were interview. This constituted an 89.6% response rate.

Ethical consideration

Ethical approval was obtained from the University of Africa, Toru – Orua ethics and research committee on 25th of January 2024 and informed consent was obtained from all participants who had a right to withdraw from the study at any time. Data confidentiality was also maintained.

Study Instruments: Structured questionnaire was employed for this study. The structured questionnaire was developed by the researchers in English and translated into the Izon local language for women with issues in reading and writing. The questionnaire comprised three sections, which gathered information about respondents' socio-demographic characteristics; knowledge on cervical cancer and screening tests; access to and utilization of pap smear screening tests and perceived barriers influencing the uptake of cervical screening services.

Validity of the research Instruments: The validity of the research instrument (questionnaires) was established through face and content validity criteria. The questionnaire was presented to a senior colleague, who made the necessary corrections. This process was to ensure the reliability and validity of the instruments.

Data collection: This study data was collected using structured questionnaires which were administered by the researchers to 453 respondent using simple random sampling technique. Interested individuals' consent were gained and the questionnaires administered to each respondent to fill out and retrieved immediately for analysis. The researchers used the local language to assist respondents who encountered difficulties reading or writing, while those respondents who could read and write completed the questionnaires by themselves.

Data Analysis: The data collected through the structured questionnaire were manually sorted out, before being subjected to computer analysis. The results of participants according to the questionnaire were analyzed using frequency distribution table and charts. The research analysis was done using SPSS, Version 2.0. Frequency, percentage, and charts were used as a source of data representation.

Results

A total of 453 questionnaires were distributed but 406 were filled in and retrieved for analysis.

Socio-Demographic Characteristics: The subjects N= (406) was predominantly the Izon tribe (94.6%; n=384). The respondents were within the age range of 15–50 years with a mean age of 43 and a standard deviation of 7 years. Of the respondents 62% (n=252) were married within the age range of 22–26, with a mean age at marriage of 25 and a standard deviation of 3 years. Most respondents (87.8%; n=356) were married, (32.9%; n=134) had two children and just as many, 32.9% (n=134) had three children. Other demographic data is displayed in table 1 below.

Table: 1: Socio-Demographic Characteristics of respondents

Characteristics	Frequency	Percentage
Age Range		
10– 20	10	2.5
21 – 25	6	1.5
26 – 30	55	13.5
31 – 40	61	15.0
41 – 50	132	32.5
51 – 55	142	35.0
Marital Status		
Single	46	11.3
Married	294	72.4
Divorced	66	16.3
Age at Marriage		
2 – 8	58	14.2
9 – 15	142	35.0
16 – 22	178	44.0
23 –30	28	6.8
Religion		
Christianity	300	73.9
Islam	86	21.2
Traditional	20	4.9
Tribe		
Izon	330	81.3
Yoruba	22	5.4
Igbo	40	9.9
Hausa	14	3.4
Level of Education		
No Formal Education	24	5.9
Primary Education	108	26.6
Secondary Education	232	57.2
Tertiary Education	42	10.3
Number of Children		
One	58	14.3
Two	130	32.0
Three	130	32.0
Four	68	16.7
≥Five	20	5.0
Employment Status		
Employed Full – time	215	53.5
Employed Part – time	100	25.5
Unemployed	16	4.5
Student	65	16.5

Awareness of cervical cancer

Out of the respondents, (78.3%; n =318) had heard about cervical cancer. As many as 49.3% (n=200) of the respondents reported that cervical cancer can be prevented, while only 29.6% (n=120) claimed to have heard of cervical cancer screening (pap smear). Most (34.2%; n=95) of these women who had heard about cervical cancer, did so through the media, while 55.8% (n=155) heard about it through the hospital's health care personnel. Only a few respondents (10.0%; n=28) heard about cervical cancer from their friends, see Table 2.

Table 2: Awareness of cervical cancer

Question	Frequency	Percentage
Have you ever heard of cervical cancer?		
Yes	318	78.3
No	88	21.7
If yes, where did you get an information about cervical cancer?		
Media	95	34.2
Hospital or Health Personnel	155	55.8
Friends	28	10.0
Can cervical cancer be prevented?		
Yes	200	49.3
No	206	50.7
Have you heard of Pap smears?		
Yes	120	29.6
No	286	70.4

Respondent's knowledge of cervical cancer

The respondent's knowledge was measured using a total score of 13, every correct answer was given a score of 1, while the wrong answer was given a score of zero. Therefore, a total score of thirteen was obtainable. Scores between 1 and 6 were rated as indicating poor knowledge and scores between 7 and 13 were rated as indicating a good level of knowledge, as summarized in table 3, there was an agreement by 49.5% (n=201) of the women that cervical cancer is an abnormal growth of the mouth of the uterus that it could spread to other parts of the body if not detected early. Also, 70% (n=284) of the women disagreed that irregular/heavy vaginal bleeding was a symptom of cervical cancer; while 59.6% (n= 242) agreed that multiple sex partners could be a risk factor for developing cervical cancer; and 59.6% (n=242) disagreed that a Pap smear is the screening test for cervical cancer. In summary, the knowledge score by the respondents showed that 56.7% (n=230) had poor knowledge, while 43.3% (n=176) had good knowledge about cervical cancer and prevention strategies. The younger women were more knowledgeable than the older women. This study therefore concluded that the age of women influenced their knowledge about cervical cancer and participation in screening services. That is, the younger women were more knowledgeable about cervical cancer and screening than the older ones.

Access and utilization of screening facilities

As it was seen from table 4, more than half of the respondents (54.5%; n= 221) reported being unaware of any cervical cancer-screening center and few of them (45.6%; n =185) knew about a screening center, out of which 17.6% (n= 32) reported that the screening center was less than 2km away from their residences.

Table 3: Respondents' knowledge about cervical cancer, risk factors and prevention (N=406)

Statement	True	False	Total
Cervical cancer is a disease that affects the cervix which is the mouth of the uterus.	230 (56.7)	176(43.3)	406 (100.0)
Cervical cancer is an abnormal growth of the mouth of the uterus (cervix) that could spread. to other part of the body if not detected early	201 (49.5)	205 (50.5)	406 (100.0)
Irregular/heavy per vaginal bleeding when not menstruating, after intercourse or after menopause is one of the symptoms of cervical cancer	122 (30.0)	284 (70.0)	406 (100.0)
Multiple sexual partners are one of the risk factors for cervical cancer	242 (59.6)	164 (40.4)	406 (100.0)
Cervical cancer is mainly caused by a virus (Human Papilloma Virus)	244(60.1)	162 (39.9)	406 (100.0)
Cervical cancer can affect any sexually active female.	240 (59.2)	166 (40.8)	406 (100.0)
Early sexual intercourse is one of the risk factors for cervical cancer.	188 (46.3)	218 (53.7)	406 (100.0)
Women with risk for cervical cancer can be identified through blood and saliva test.	178 (43.8)	228 (56.2)	406 (100.0)
Limiting sexual partners to one predisposes to cervical cancer.	254 (62.6)	152 (37.4)	406 (100.0)
Pap smear is the screening test for cervical cancer	164 (40.4)	242 (59.6)	406 (100.0)
Cervical cancer can be prevented through early screening and treatment	178 (43.8)	228 (56.2)	406 (100.0)
Cervical cancer can be prevented by a vaccine	244 (60.1)	162 (39.9)	406 (100.0)

Barriers to Cervical cancer screening

About 70.2% (n=285) of the women agreed that a lack of information about the screening center was one of the reasons why women did not use cervical screening services. Health workers' attitudes posed a major barrier to screening for 57.6% (n=234) of the respondents as seen from table 4 below.

Table 4: Access and Utilization of Cervical Cancer Screening Services

Respondents' utilization of screening facilities	Frequency	Percentage
Are you aware of any cervical cancer screening center in Yenagoa LGA?		
Yes	185	45.6
No	221	54.4
Distance of screening center to participants' residence		
< 2km	32	17.6
2 - 5km	46	24.9
-10km	42	23.1
>10km	20	11.1
>15km	95	23.3
Do you think distance is a barrier to cervical cancer screening test?		
Yes	366	90.1
No	40	9.9
Do you think lack of information of screening services and center is a barrier for women in accessing cervical cancer screening services?		
Yes	268	66
No	138	34
Do you think the cervical cancer screening test is costly?		
Yes	370	91.1

No	36	8.9
Do you think attitude of health workers can pose as a major barrier to screening services?		
Yes	234	57.6
No	172	42.4

Discussion

A total of 406 participants of reproductive age in Okaka and Agudama communities in Yenagoa local government, Bayelsa state were questioned for this study. The respondents were all females. 26.6% of the participants had primary education while majority of the participants (57.2%), had secondary education, 10.3% had tertiary education and 5.9% had no formal education. The level of awareness of cervical cancer displayed by women in this study was in line with the work of Awodele et al [27] who found that most women were aware of cervical cancer and risk factors. The results, however, do not support those of Ayinde and Omigbodun [28] and Balogun et al. [29] who reported low levels of awareness of cervical cancer and risk factors. The low level of awareness of Pap smear as a screening method reported in this study agreed with those of Adanus [30]. The study's findings did not support reports by Al Thanii et al [31] that mass media remained the major source of information on cervical cancer prevention in Honduras as the study showed that the major source of information about cervical cancer was from hospitals and health care workers. Most respondents lacked knowledge about cervical cancer and its prevention, agreeing with findings reported in Nigeria by Nwankwo et al [32] and those of Al Thani et al [31] in Qatar, who reported that women had poor knowledge about cervical cancer, screening services and HPV. The level of knowledge shown by women in this study, however, disagreed with the findings of Mutyaba et al, [33] who found that 83% of the women had satisfactory knowledge about cervical cancer screening. Most women in this study had never been screened for cervical cancer and about half of them did not know of a cervical cancer-screening center. This finding supports the study finding reported by Ezem [34] in Owerri in Nigeria, where 52.8% of participants were aware of screening facilities. This result was like the finding of a study [35] which showed that the level of awareness of cervical screening and the level of uptake among respondents were low. This study identified some barriers that might influence the utilization of cervical cancer screening services. Some women in this study reported cervical cancer screening to be embarrassing, in contrast to the report of Ibekwe et al [36] that 68% of women believed that cervical cancer screening was not embarrassing. The finding on lack of awareness of cervical screening as one of the major barriers to uptake of screening in this study had also been reported by Kamphinda-Banda, [37] who reported that the main barrier to cervical cancer screening was women's lack of knowledge and information about cervical cancer and screening and these service sites. There was a significant association between the women's knowledge of cervical cancer and prevention, but their ages disagree with the report by Al Thani et al [31], which showed that older women were more knowledgeable about cervical cancer and screening services than

younger women. Also, this study disagreed with findings that screening was higher among women aged 40 and older compared with younger women as reported by Al Thani et al, [31] who reported that more women aged 40 and older used Pap smear services than younger women. The findings are, however, at par with Leung and Leungs [38] findings that females aged 37 years or younger were more likely to attend cervical cancer screening.

Conclusion

The cognizance of cervical cancer is the fundamental responsibility of medical professionals to detect, diagnose and treat it at an early stage. Health workers' attitude towards awareness creation and information dissemination should be improved with continuous training. Dissemination and better awareness creation of cervical cancer should not only lie with the medical professionals' role, but also everyone including male and female members of the community. Rural women in Nigeria required more information on cervical cancer and its prevention. Mass media was the major source of cervical screening information, followed by health care workers. Health professionals should provide preventive information at various clinics. Continuous reinforcement of educational information on cervical cancer and screening is a priority to increase uptake of cervical cancer screening services, early detection of cervical lesions and effective treatment.

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