



Cervical Cancer Awareness and Screening Uptake among Rural Women in Lagos, Nigeria

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Key words:

Cervical cancer,
Screening services,
Awareness,
Uptake,
Rural,
Lagos

ABSTRACT

Background: Cervical cancer is the most common cause of female genital cancer and female cancer deaths in developing countries such as Nigeria. The most recent government estimates put the number of new cases at 25,000 per year. According to the latest global estimates, 493, 000 new cases occur each year and 274,000 women die of the disease annually. This study therefore determined the awareness, knowledge and use of cervical cancer screening services among rural women in Lagos State, Nigeria.

Method: A cross sectional, descriptive study design was adopted and a total of 400 women were studied. Data was collected using a structured, interviewer-administered questionnaire. The questionnaire elicited information about socio-demographic characteristics, awareness, knowledge and use of screening services. Univariate and bivariate analyses were done with Statistical Package for Social Sciences (SPSS) version 16. Significance level at 5%

Results: Age range of study participants was 25-65years and a mean age of 38.9 ± 9.51 years. Most of the respondents (85.0%) were not aware of cervical cancer. However, amongst those who were aware of cervical cancer, 66.7% got the information from the media. Only a few (13.3%) of the respondents have ever been screened and none of the screening was in the last 3 years. Majority (86.7%) of the respondents expressed willingness to undergo cervical cancer screening.

Conclusion: There was low awareness of cervical cancer and screening uptake among the respondents and the overall knowledge was equally poor. However, the respondents showed a strong willingness for screening. There is need for community education and awareness among the rural women at large as this would engender a more positive attitude and increased use of screening services.

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INTRODUCTION

Cervical cancer is the second commonest cancer in Nigerian women and the leading gynecological malignancy with high mortality among the afflicted.¹ However, awareness and uptake of screening is very low among Nigerian women.¹ Moreover, there are no established screening programmes in rural areas. The uptake of cervical cancer screening has remained very low in Nigeria while the mortality and morbidity associated with cervical cancer has

remained high.² The disease progresses over many years, with an estimated 1.4 million women worldwide living with cervical cancer, and up to 7 million world-wide may have precancerous conditions that need to be identified and treated.³ If not detected and treated early, cervical cancer is nearly always fatal. The disease, which affects the poorest and most vulnerable women, sends a ripple effect through families and communities that rely heavily on women's roles as providers and caregivers.⁴

Nigeria is the most populous country in sub-Saharan Africa, with over 150 million inhabitants, a life expectancy at birth of 49.3 years in men and 50.8 years in women, child mortality rate of 57.3 and 56.5 per 1,000 in males and females respectively.⁵ The incidence rate of cervical cancer in Nigeria is 25/100,000 while the reported prevalence rates for Human Papilloma Virus (HPV) in the general population and HPV in women with cervical cancer are 26.3% and 24.8% respectively.⁶ A study in Maiduguri, Northern Nigeria aimed at ascertaining frequency patterns of female genital tract malignancies analyzed surgical biopsy materials retrospectively over a ten year –period, Cancer of the cervix was the most prevalent with a proportion of 70.5% compared to 16.3% for ovarian and 8.5% for uterine cancer.

A rapid gradient rise was found for cases of cervical tumor in association with a decline in age at presentation for all the tumors.⁷ Also, a ten year study in Ilorin-Nigeria, reported that carcinoma of the cervix constituted 63.1% of histologically confirmed cases of gynecological cancers. Three quarters of the cases were at an advanced stage.⁸ A similar review of histopathology reports on frequencies of malignant diseases of the female genital tract in Port-Harcourt also showed that cervical cancer accounts for 63.1% of gynecological cancers.⁹ Another study in Lagos, Nigeria reported that 71.8% of cervical cancer patients who reported at the clinic did so at an advanced stage of the disease. This was due to delay in referral by their health care providers and patients' delay in seeking health care.¹⁰

Successfully organized, population based cervical cancer screening programmes have not yet been implemented in most developing countries, despite the great burden of cervical cancer in these countries. This is largely related to poverty, lack of resources and infrastructure and marginalization of women.¹¹ Due to a lack of an organized screening system in most developing countries for detecting precursor lesions, mortality rates from cervical

cancer are used as a measure of its severity. When screening programmes are absent or ineffective, cervical cancer leads to death.¹² Overall, the impact on women, their families, and the communities in developing countries is devastating. If early detection of precursor lesions by screening and treatment were made available, much suffering and many deaths could be prevented.¹² Women living in rural areas of Nigeria are generally known to be suffering from general deprivation including access to information resources, rural women most often fail to access various information resources and services even when such is available.¹³ A study within rural communities was important in order to reveal the level of knowledge and uptake of cervical cancer screening among the rural women.

The information gathered will help policy makers to plan and implement necessary interventions that will enable women to have good knowledge of cervical cancer and provide access to cervical cancer screening services within the communities. Hence, this study was conducted in rural communities to determine the knowledge and uptake of cervical cancer screening among women in two rural Local Government Areas of Lagos State, Nigeria.

METHODOLOGY

Study setting/population

The cross sectional study was conducted among sexually exposed women between 25 and 65 years of age who reside in two rural communities in Lagos State. Lagos State is located in the south-western part of Nigeria with a provisional census figure of 9,013,534 out of the total national figure of 140 million.¹⁴ The state is made up of 20 Local Government Areas, of which 16 are classified as urban and 4 as rural LGAs. Epe and Ikorodu LGAs are 2 of the 4 rural LGAs in Lagos state. The minimum sample size of 400 was determined using the formula for population greater than 10,000.¹⁵

Eligibility criteria were: women between 25 and 65

years of age with no history suggestive of cervical intra-neoplasia (CIN) or cervical cancer, who were residents in the two selected communities and who consented to participate in the study after detailed explanation of the purpose of research and assurance of confidentiality.

Multi-stage sampling technique was used in selecting the study participants. A list of all the four rural LGAs in Lagos State constituted the sampling frame in stage one. Stage one involved the selection of two LGAs (Epe and Ikorodu LGAs) were selected by simple random sampling (balloting). At the second stage, one Local Council Development Area (LCDA) each was selected by simple random sampling, they were Ikosi-Ejinrin and Igbogbo-Baiyeku. At the third stage, one community each was selected by balloting. They were Agbowo and Igbogbo communities; the distance between the two communities is about 50 km.

In each political ward, the appropriate number of respondents selected was determined in proportion to the number of streets contained in the ward. In the target population sampling stages, two hundred women were recruited for the study in each LGA, thus a total of four hundred women were recruited from the two local government areas (LGAs).

A pre-tested structured interviewer-administered questionnaire adapted and modified from an instrument used for a study on factors influencing cervical cancer screening uptake among women attending Mahalapye District Hospital in Botswana¹⁶ was used for data collection. The questionnaire elicited information about socio-demographic characteristics, awareness, knowledge and use of screening services.

Data analysis was done using Statistical Package for Social Sciences (SPSS) version 16. Univariate and bivariate analyses were done. Findings were presented in frequency tables and cross tabulations. The Chi square test and Fisher's exact were used for bivariate analysis with the level of significance set at $P < 0.05$. To assess knowledge, correct answers to

questions were awarded a score of one, while wrong answers were scored zero.

The total score for the knowledge section was then calculated by adding all the scores and these were converted to percentages. Knowledge grade was assigned to each respondent based on their total percentage score. This knowledge grade was a scale of performance based on standards previously used by knowledge, attitude and practice studies carried out in Lagos as follows:

0-49% = Poor knowledge;

50-74% = Fair knowledge;

75-100% = Good knowledge^{17,18}

Ethical approval of the study was obtained from the research and ethical committee of Lagos State University Teaching Hospital (LASUTH) and individual verbal consent was obtained from each of the participant. Confidentiality was assured and ensured.

RESULTS

The ages of study participants ranged between 25-65 years with a mean age of 38.9 ± 9.51 years. Majority 323 (80.8%) were married, more than half of the respondents 210 (52.5%) had secondary level of education, while 75 (18.8%) had tertiary education and 25(6.3%) had no formal education. About half of the respondents 203(50.8%) practiced Islam as religion while 195(48.8%) practiced Christianity with most of the respondents 264 (66.0%) being self-employed (Table I).

With regards to awareness of cervical cancer, only a few 60 (15.0%) have heard about cancer of the cervix and the main source of information was media (Radio and Television) which accounted for 40 (66.7%). However, just 8(13.3%) of the respondents have ever been screened and none of the screening was in the last 3 years. Majority of the respondents 52 (86.7%) expressed willingness to undergo cervical cancer screening. (Table II).

Table I: Socio-demographic characteristics of Respondents

Characteristics	Frequency N = 400(%)
Age group	
25 -34	145(36.2)
35 -44	139(34.7)
45 -54	86(21.5)
55 -64	29(7.3)
≥ 65	1(0.3)
Mean Age ± SD	38.9 ± 9.51
Marital status	
Single	38(9.5)
Married	323(80.7)
Divorced	19(4.7)
Widowed	15(3.8)
Separated	5(1.3)
Religion	
Christianity	195(48.7)
Islam	203(50.8)
Others	2(0.5)
Education	
None	25(6.2)
Primary	75(18.7)
Secondary	210(52.5)
Tertiary	75(18.8)
Post graduate	15(3.8)
Nature of work	
Self employed	264(66.0)
Government employed	85(21.3)
Private employed	12(3.0)
Unemployed	39(9.7)

Table II : Respondents awareness and willingness for cervical cancer screening

Characteristics	Frequency (%)
Heard of cervical cancer	n=400
Yes	60(15.0)
No	340(85.0)
Sources of information (multiple response)	n=60
Media	40(66.7)
Health workers	21(35.0)
Friends	27(45.0)
Books	7(11.7)
Heard of cervical cancer screening	
Yes	51(85.0)
No	9(15.0)
Have you been screened before?	
Yes	8(13.3)
No	52(86.7)
Willingness to be screened now	
Yes	52(86.7)
No	8(13.3)

Only 17(28.3%) and 1(1.7%) of the respondents respectively were aware of Visual inspection with Acetic Acid (VIA) and Visual inspection with Lugols Iodine (VILI) as methods of screening for cervical cancer. Sexual intercourse with many men was the most identifiable factor responsible for cervical cancer by the respondents 50 (83.3%). (Table III).

Table III: Respondents' knowledge of risk factors associated with cancer of the cervix

Risk factors	Frequency n=60(%)
Poor hygiene	
Yes	23(38.3)
No	37(61.7)
Multiple sexual partners	
Yes	48(80.0)
No	12(20.0)
Cigarette smoking	
Yes	29(48.3)
No	31(51.7)
STIs	
Yes	46(76.7)
No	14(23.3)
Early sexual debut	
Yes	43(71.7)
No	17(28.3)
Long usage of OCP	
Yes	33(55.0)
No	27(45.0)
Being sexually active	
Yes	39(65.0)
No	21(35.0)
Human Papilloma Virus	
Yes	24(40.0)
No	36(60.0)
Family history	
Yes	44(73.3)
No	16(26.7)

Table IV : Respondents' knowledge of cervical cancer screening methods

Screening Methods	Frequency (n=60) (%)
Pap smear	
Yes	39(65.0)
No	21(35.0)
VIA	
Yes	17(28.3)
No	43(71.7)
VILI	
Yes	1(1.7)
No	59(98.3)
HPV	
Yes	3(5.0)
No	57(95.0)

More than half 37(61.7%) knew that all women are at risk of cancer of the cervix. Majority (81.7%) knew that regular screening and not having multiple sexual partners were among methods of prevention of

cervical cancer. (Table V). Overall only 5(8.3%) of the respondents had good knowledge, 23(38.4%) had fair and 32(53.3%) had poor knowledge of cervical cancer. (Table VI). There was no significant relationship between respondent's level of knowledge and screening practices. (Table VII).

Table V: Respondents' knowledge of methods of prevention

Methods	Frequency n=60(%)
Vaccination	
Yes	26(43.3)
No	34(56.7)
Regular screening	
Yes	49(81.7)
No	11(18.3)
Delaying first sexual intercourse	
Yes	31(51.7)
No	29(48.3)
Not having multiple sexual partners	
Yes	37(61.7)
No	23(38.3)
Having fewer number of children	
Yes	24(40.0)
No	36(60.0)

Table VI: Knowledge grading among respondents

Level of knowledge	Frequency n=60(%)
Poor	32 (53.3)
Fair	23(38.4)
Good	5(8.3)

Table VII: Association between respondents' level of knowledge of cervical cancer and screening practice n=60

Screening practices	Level of Knowledge			Statistics/ P-value
	Poor	Fair	Good	
Ever screened				
Yes	4(50.0)	3(37.5)	1(12.5)	$\chi^2 = 0.692$; p value = 0.861*
No	28(53.8)	20(38.5)	4(7.7)	

DISCUSSION

This study was conducted to assess the awareness, knowledge and uptake of cervical cancer screening among rural women who were socioeconomically backward, expected to have low access to education

and health-care facilities, represent a population group at high risk for undetected cases of cervical cancer, and are a good representation of the situation facing a large portion of Nigerian women today. Of the 400 rural women who were included in the study, 52.5% were educated up to secondary level. Only a few (15.0%) of the respondents were aware of cervical cancer, this is similar to the findings in other studies done in the eastern part of the country where awareness of cervical cancer was low.^{19,20} Awareness about cervical cancer was mostly (66.7%) by media in this study, although this finding was in consonance with a study conducted in North Central Nigeria,²¹ however some studies have shown that health workers can be strong motivators for undergoing screening.^{22,23} In this study, only about a third(35.0%) of the respondents who were aware of cervical cancer got to know about it from health workers. Sustaining the use of mass media in disseminating information to the general populace is imperative. Most of our respondents got their information from this source. Thus, media houses should endeavour to promote health education through campaigns, dramas, debates and advertisement either free of charge or at subsidized rates. Similar to findings of study done in Makurdi, Nigeria,²⁴ this study showed low uptake (13.3%) of screening services among those aware of cervical cancers although, this rate is higher than the 2.6% and 4.2% reported in studies conducted in western and eastern Nigeria respectively.^{25,26} And also higher than the finding (8.0%) in another study conducted in Northern Nigeria.²⁷ This could be justified by an on-going awareness campaign and free cervical screening program by the State Government

The observed low uptake of cervical cancer screening recorded in the current study could be attributed to some factors such as low socioeconomic status of study participants. This is because educational and occupational status of people most of the times determines their awareness level about a particular health condition and their financial capability to access healthcare services. The low uptake could also be due to non availability of screening services in the rural areas of the State and the poor knowledge of people about cervical cancer and its prevention.

Knowledge of risk factors is important to women at risk to enable them seek help early. Certain risk factors such as early onset of sexual inter-course, multiple sexual partners and frequent STIs are known to be highly associated with the disease. In terms of knowledge of risk factors, in this study, 38.3% of the population identified poor genital hygiene, active sexual life (65%), early marriage (71.7%), STIs (76.7%) and multiple pregnancies (80%) predisposed to cervical cancer. This finding is similar to the study done among rural women in India.²⁸ In contrast to another study which showed that 18.3% knew that early coitus, early first pregnancy (33.9%), multiple pregnancy (15.1%), poor hygiene (8.4%), and STDs (20.9%) were risk factors for cervical cancer.²⁹ Also, another study reported that only 6% knew all and 65% knew any one of the risk factors of cervical cancer among women in a rural community in South Africa.³⁰

In our study, about two third of the respondents identified PAP smear as a screening method for cervical cancer with few identifying other screening methods (28.3% VIA, 1.7% VILI and 5.0% HPV DNA) This is not surprising as the PAP smear test is the most commonly performed test in Nigeria for cancer of the cervix before the advent of the other methods which are more recent compared to PAP smear. This result however differs from the study among rural women in the North East of Nigeria which reported that only 2.3% have heard of PAP smear test.³¹ Understandably, the on-going awareness campaign and free cervical screening program by the State Government could be attributed to the observed differences.

Majority of the respondents in this study considered regular screening important for women, and it is seen as the preventive option for cervical cancer. This is similar to a study in Zaria, Nigeria, which reported that 94% of the respondents believed that screening is important.³² Similarly, the American Cancer Society reported that cervical cancer is falling by 60 - 90% in developed countries due to routine screening.³³

The overall analysis of knowledge of respondents showed that a little more than half of the

respondents that were aware of cervical cancer had poor knowledge with only a few (8.3%) demonstrating good knowledge score. The low level of adequate knowledge about cervical cancer among those who were aware of the disease suggests that the current public health education in this regard needs to be strengthened; as stated earlier that cervical cancer is the second most common cause of cancer deaths in women in Nigeria. This disease is preventable but requires the women to be empowered with information through education and community advocacy programs. Perhaps the most encouraging of the result of this study is that majority were willing to avail themselves of the opportunity to be screened for cancer of the cervix which corroborates the report of a study on Knowledge and Practice of Cervical Cancer Screening amongst Nurses in Ahmadu Bello University Teaching Hospital Zaria, Nigeria that among those who had never been screened, 70.1% of them would want to be screened.³²

There was no statistically significant association between the level of education of respondents, marital status, nature of work and level of knowledge of cervical cancer. Also, there was no statistically significant association between respondents' level of knowledge of cervical cancer and screening practices. This finding was not surprising as only a few 5(8.3%) of the respondents had good knowledge of cervical cancer and its prevention.

CONCLUSION

The awareness, knowledge of cervical cancer and screening uptake are very low among women living in rural communities in Nigeria with high prevalence of the risk factors. The practice towards prevention is also low due to the poor knowledge/ awareness of the disease. However, the majority of the respondents are willing to undergo the screening test if available. Successful implementation of screening and primary care depend on awareness and willingness on the part of women at risk. The fact that most of the women in our study were willing to undergo screening is considered important. It is therefore recommended that

community health education should be instituted. In addition equipments for screening should be made available at the primary health care centers with trained health personnel with proper referral system in place for positive cases.

STRENGTH AND LIMITATION

The main strength of this study is that it was community based which helped in increasing the external validity. However, the study is limited by the fact that contamination may have occurred from exposure to media campaigns, mobile phones promoting healthy living and the on-going free cervical cancer education and screening in Lagos state by the state ministry of health.

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