Original

How well do female healthcare professionals in Southern Nigeria know about Cervical cancer and use its screening services? A Cross-sectional survey.

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ABSTRACT

Background: Cervical cancer is a leading cause of death globally and 9 in 10 cervical cancer-related deaths occur in low-middle-income countries. Female healthcare workers are vital to promote the awareness and uptake of screening services in the general population. This study sought to assess the level of knowledge of cervical cancer and determine the uptake of cervical cancer screening services (CCSS) amongst female healthcare professionals in Bayelsa State.

Method: A cross-sectional study was done using semi-structured questionnaire on 178 female health care professionals selected by convenience sampling responsible for providing care across public facilities. Information on socio-demographic characteristics, knowledge of HPV and cervical cancer; and uptake of CCSS as well as perceived barriers were obtained.

Results: Mean age was 36.2 years. About 95% had good knowledge and the uptake of cervical cancer screening services (CCSS) was 28.1%. Pap smear was the most common CCSS (98.0%) done and only 1 respondent had the Human papilloma virus test. The commonest reason for not being screened was *not knowing where to get tested* (21.3%) and 23.3% had no reason for not being screened. Age, having children, marital status and number of years of practice(*p-0.000)* were associated with the uptake of CCSS.

Conclusions: Despite the good level of knowledge of cervical cancer, the uptake of screening services remains poor. Further research, targeted training, education and interventions need to be developed to address the gaps in knowledge and access to cervical screening services of female healthcare professionals to consolidate efforts of eliminating cervical cancer.

Keywords: *HPV, Cervical cancer, Knowledge, Screening, Uptake, female health professionals*

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INTRODUCTION

"One woman dies of cervical cancer every 2 minutes".[1] In the 21st century, cervical cancer is a global public health problem with over 660,000 new cases diagnosed and 350,000 deaths recorded among middle aged women in 2022.[2] Cervical cancer is a leading cause of death compared with developed countries and 9 in 10 deaths cervical cancer deaths occurring in low- and middle-income countries (LMICs).[1,3] Although developing countries have shown a steady decline, the same cannot be said for the developing countries revealing marked disparities in equities regrading this disease.[3] Cervical cancer remains a leading cause of cancer-related deaths across all regions of Africa.[1] In Nigeria, it is the 2nd most common cause of cancer-related deaths among women aged 15-44yrs and recent estimates reveal that about 66.1% of cases die every year from this disease.[4]

Human Papillomavirus (HPV) has been identified as the main etiological agent in almost all cases of cervical cancer.[5] However, not all infections with HPV lead to cancers. About 90% of HPV infections resolve without any intervention in women with strong immune systems.[5] About 25% of women generally have this infection at any point in their lifetime thereby making HPV the most common sexually transmitted infection.[1] Cervical cancer occurs as a malignant outcome of prolonged unabated infection with some variants of HPV exacerbated by other factors such as early sexual onset, multiple sexual partners, early age at 1st delivery, low economic status, use of oral contraceptives amongst other factors.[5]It has been shown that the pathogenesis of cervical cancer globally is the same and observed higher incidence, prevalence and mortality in the LMIC is not with the variants of HPV across regions but rather based on predisposing factors coupled with the lack of high-quality screening and treatment facilities in the low-resource settings. [1,5] Therefore, the global goal seeks to address control and elimination of cervical cancer through efforts targeting these areas.

Cervical cancer is a preventable disease and is also curable with early detection and adequate treatment.[5] Screening for cervical cancer is recommended in every female. The tests used are the HPV tests, cytology based pap smear and the Visual inspection with Acetic acid (VIA) at least 3 times at 10 years interval between the age of 30 and 50 years.[5] Cervical cancer screening has been shown to reduce risk of Immature Polypoid Squamous Metaplasia in developed nations by over 70% however uptake of this life saving service is still poor in Sub-Saharan Africa.[5]

Therefore, as part of efforts in view of the worrisome trend of HPV infections and cervical cancer, the World Health Assembly in 2020 rolled out the Global Strategy for Cervical cancer elimination 2020-2030 which has a 90-70-90 target regarding vaccination, screening and treatment respectively. It aims that 90% of HPV vaccination of girls from 15years of age, 70% of women should have been screened by 35 years and 45 years and that 90% of diagnosed women should be treated.[1]

Healthcare personnel are key stakeholders in ensuring that the right information regarding cervical cancer prevention, detection, diagnosis and treatment especially amidst the many misconceptions amongst women generally.[6] Women sometimes feel more comfortable discussing their health conditions with other females.[7] Indeed, health workers influence patient health behaviors. Evidence shows that poor knowledge and skills of health workers can negatively impact the success of cervical cancer interventions. By having the right knowledge, health personnel should help limit the misinformation and reduce stigma especially related to sexual and reproductive health.[8–11] Female healthcare workers are critical to promote the awareness and uptake of screening services such as pap smear in the general population.[12,13] It should not be assumed that health care professionals know enough about cervical cancer and to what extent they uptake these services also impacts on their ability and willingness to recommend same to others. Therefore, their own perceived barriers, beliefs and practices need to be explored as well. A study among female health workers in public hospital in Ethiopia[14] showed that less than 50% had adequate knowledge of cervical cancer and uptake of screening was 8.7% while a study in Delta State Nigeria[15] showed that less than 36.6% of female health workers had good knowledge of cervical cancer.

This study sought to assess the level of knowledge of cervical cancer and determine the uptake of Cervical cancer screening services and barriers amongst female healthcare professionals in Bayelsa State.

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MATERIALS AND METHODS:

Study area

Bayelsa is an oil-rich state sited in the Southern region of Nigeria. It is located at the heart of the Niger Delta region and is bound on the south and west by the Atlantic Ocean, on the north by Delta State and on the east by Rivers State. Yenagoa is the state capital and has an area of 706km^2 with a population size of 352,285.[16]

Study design and setting

This was a cross-sectional survey carried out among female healthcare professionals providing care across public facilities in Yenagoa Bayelsa State, South-south Nigeria. The predominant occupation in the rural areas includes fishing, farming and palm oil production while the urban areas have a combination of public and private sector employment.

Study population

Female healthcare professionals who were working in the public facilities were sampled by convenience. In this study a health care professional refers to someone who is trained to provide healthcare services and formally trained to diagnose, treat, and prevent illnesses, and other health conditions. They are captured under formally designated professions. Only personnel who were sick or not present at the time of data collection were exempt from the study.

Sample size determination

This was determined by using formula for single population proportion $N = z^2pq/d^2$,[17] at 95% confidence interval which is 1.96; 'p' is the prevalence of uptake of reported 11% in a previous study,[15] as 'p' and q = 1 – p; while 'd' was the alpha error set at 5% for this study. A minimum sample size of 151 was obtained and to account for non-response a total of 178 responses were obtained.

Sampling and Data collection

The study tool used was self-administered and comprised semi-structured questions. It took about 12 mins to fill. The tool was sourced from an in-depth review of existing literature,[18] pre-tested and further validated by public health experts from the public health and obstetrics & gynecology departments. The tool had sections obtaining information on socio-demographic characteristics, knowledge of HPV and cervical cancer and uptake of cervical cancer screening services as well as perceived barriers.

Measurement of variables

Participants' knowledge of HPV and cervical cancer were assessed by questions on risk factors, signs and symptoms and screening methods. For each question/statement, were asked to select one of the three options: "Yes," "No," or "Don't know." This was then recoded into dichotomous scale such that "Yes" was considered as 1 and No/Don't know as 0. Depending on the statement, this was then recoded as "Correct" or "Incorrect" response. A total knowledge score for all the items was computed by adding up scores obtained based on number of correct responses (maximum score of 7). The total score was then categorized as poor knowledge (score of 0–4, fair knowledge (score of 5–6), and good knowledge (7-9). Participants were asked to identify the cervical cancer screening tests and responses captured as "Correct" or "Incorrect" response. To determine their uptake of cervical cancer screening services, participants were asked to indicate if they had ever had a cervical cancer test, what type and when. Amongst those who had, there were further questions on the outcomes of the test results and for those who had not been screened, reasons for not having been tested were explored and respondents asked to identify as many reasons that applied to them, and this was captured as multiple response. The reasons presented as the barriers were drawn from existing literature on commonly identified barriers to the uptake of cervical screening services.

Data Analysis

Data was analyzed was done using Microsoft Excel and the IBM Statistical Package for Social Science (SPSS) version 24.0.[19] The demographic characteristics, knowledge, uptake and barriers to use of cervical cancer screening were summarized using descriptive analysis such as frequencies and proportions, mean and standard deviations and inferential analysis were done to identify associated factors of uptake of screening services using chi-squared tests. The level of statistical significance was considered as p-value <0.05. Findings were presented using charts and tables.

Ethical Statement

Ethical approval (FMCY/REC/ECC/2020/JAN/231) was obtained from the Ethical review committee of the Federal Medical Centre, Yenagoa. All the questionnaires

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were anonymized, and information obtained kept confidential.

RESULTS

Sociodemographic profile of respondents (Table 1)

The mean age of the respondents was 36.10. Majority (61.9%) were married from Ijaw ethnic group, and about 62.5% were Christians. This can be attributed to the fact that this study was conducted in Bayelsa state which is one of the Ijaw speaking states of South-south Nigeria. Most of the respondents were doctors and nurses, while pharmacists and medical laboratory scientists were the least respondents.

Level of Knowledge of Cervical Cancer (Table 2 and Figure 1)

Findings reveal that the majority (71%) of health care workers interviewed had good knowledge, 24% had fair knowledge while 5% had poor knowledge. A further deep dive showed that about 55(30%) responses responded that cervical cancer is hereditary while it being incurable had 60(33%) correct responses, suggesting a gap in general knowledge of cervical cancer among health care workers on risk factors for cervical cancer.

Identification of Cervical cancer screening tests (Table 3)

When asked to identify the various cervical cancer screening tests, pap smear emerged the most identified test with about 173 (97%) of responses, followed by HPV test 109 (61%), and then VIA test 95 (53%). However, there exists a gap in knowledge of types of cervical screening tests as incorrect responses such as full blood count and high vaginal swab had 163(91%) and 150 (84%) responses respectively. This suggests that health care workers in this study had limited knowledge of types of cervical cancer screening tests.

Uptake of Cervical cancer screening services (Table 4)

Findings from this study suggests there were more healthcare workers who had never been screened for cervical cancer than those who have; with majority either having no reason or have not made up their minds about screening for cervical cancer. Of the total number (178) of respondents interviewed, about 128 (71.9%) had never been screened for cervical cancer. Pap smear emerged the most common type of cervical cancer screening with 98% of those who had been screened reporting to have done pap smear while just 1 respondent had HPV. Furthermore, findings also revealed that 18% respondents had their most recent Cervical cancer screening tests in less than two years. Majority (72%) of last screening test was done government health facilities, with only 28% done private health facilities. Findings reveal that 1 of the 50 respondents was found to have suspected cancer for which treatment was given.

Reasons for never having had a Cervical cancer screening test (Figure 1)

This study shows that the major reasons for never having had a cervical screening test were no reason (23.3%) and haven't made up their minds (21.3%). Twenty-five (12.4%) respondents were afraid of the procedure while 23 (11.4%) did not know where to get tested. Other factors were too expensive (15), the clinic being too far away, didn't have time 13 and feeling embarrassed (11).

Factors associated with Knowledge of Cervical cancer and Uptake of Cervical cancer screening services (Tables 5)

Educational level and Health care profession emerged statistically associated with knowledge of cervical cancer. Furthermore, Age, marital status, parity, and number of years of practice were significantly associated with uptake of cervical cancer with p-value <0.05.

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Table 1: Sociodemographic profile of respondents

Sociodemographic characteristics	Frequency N=178	Percent (%)
Age groups (years)		
20-29	42	23.6
30-39	84	47.2
40-49	41	23.0
>50	11	6.2
Marital Status		
Single/Separated/Widowed	67	37.6
Married/Co-habiting	111	62.4
Religion		
Atheist	1	0.6
Christianity	177	99.4
Educational level		
Post-tertiary	79	44.4
Tertiary	99	55.6
Healthcare profession		
Medicine	74	41.6
Nursing	74	41.6
Pharmacy	12	6.7
Laboratory science	8	4.5
Optometry	7	3.9
Physiotherapy	3	1.7
	Mean	**SD**
Age(years)	36.2	7.7
Number of children	2.3	1.3
Number of years in practice	10.0	7.4

Table 2: Knowledge of Cervical cancer

Questions	Right answer	Frequency (n) Percent (%)		
		Correct responses	Incorrect responses	No Knowledge
Cervical cancer is caused by HPV	**Yes**	**173(97.2)**	**3(1.7)**	**2(1.1)**
HPV is sexually transmitted	**Yes**	**158(88.8)**	**14(7.9)**	**6(3.8)**
Multiple sexual partners are a risk factor for Cervical cancer	**Yes**	**175(98.3)**	**1(0.6)**	**2(1.1)**
Cervical cancer runs in families	**Yes**	**93(52.3)**	**55(30.9)**	**30(16.8)**
Smoking is a risk factor for Cervical cancer	**Yes**	**126(70.8)**	**30(16.8)**	**22(12.4)**

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HIV is a risk factor for Cervical cancer	**Yes**	**131(73.6)**	**26(14.6)**	**21(11.8)**
Bleeding after sex is a sign of Cervical cancer	**Yes**	**148(83.2)**	**15(8.4)**	**15(8.4)**
Cervical cancer is incurable	**No**	**109(61.2)**	**60(33.7)**	**9(5.1)**
Cervical cancer can be prevented by Pap smear screening	**Yes**	**165(92.7)**	**12(6.7)**	**1(0.6)**

	Level of Knowledge of Cervical Cancer	
Score	**Frequency(N)**	**Percent (%)**
Good	127	71
Fair	43	24
Poor	8	5

Table 3: Identification of Cervical cancer screening tests

Is this a Cervical Cancer screening test?	**Right answer**	**Frequency (n) Percent (%)**	
		Correct responses	**Incorrect responses**
Visual inspection with Acetic acid/Vinegar (VIA)	**Yes**	**95(53.4)**	**83(46.6)**
Pap Smear	**Yes**	**173(97.2)**	**5(2.8)**
Cervical swab	**No**	**115(64.6)**	**63(35.4)**
Human Papillomavirus test	**Yes**	**109(61.2)**	**69(38.8)**
High vaginal swab	**No**	**28(15.7)**	**150(84.3)**
Full blood count	**No**	**15(8.4)**	**163(91.6)**

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Table 4: Uptake of Cervical cancer screening services(CCSS**)**

Variables	Frequency N	Percent (%)
Ever screened for Cervical cancer	(N=178)	
Yes	50	28.1
No	128	71.9
Type of Cervical cancer screening tests done*	(n=50)	
Pap smear	49	98.0
Visual inspection with Acetic acid (VIA)	2	4.0
Human papillomavirus test	1	2.0
Frequency of Pap smear testing	(n=49)	
Once only	36	73.5
Two – 3 times	9	18.3
More than 4 times	4	8.2
Most recent Cervical cancer screening tests	(n=50)	
Less than 2 years	26	52.0
3-5 years	12	14.0
More than 5 years	12	14.0
Where last screening test was done	(n=50)	
Government/Public health facility	36	72.0
Private facility	14	28.0
Reason for the last screening	(n=50)	
Part of a routine check	39	78.0
Recommended by healthcare provider	9	18.0
Other reasons:		
Experiencing symptoms of cervical cancer	1	2.0
Following an abnormal or inconclusive result	1	2.0
Result of most recent Cervical cancer screening	(n=50)	
Normal/Negative	39	78.0
Did not receive results	10	20.0
Suspect cancer	1	2.0
Had a follow up visit following Cervical cancer screening tests	(n=50)	
Yes	6	12.0
No	44	88.0
Received any treatment to your cervix because of the result	(n=1)	
Yes	1	100.0

***Multiple responses:** had more than 1 type of test.*

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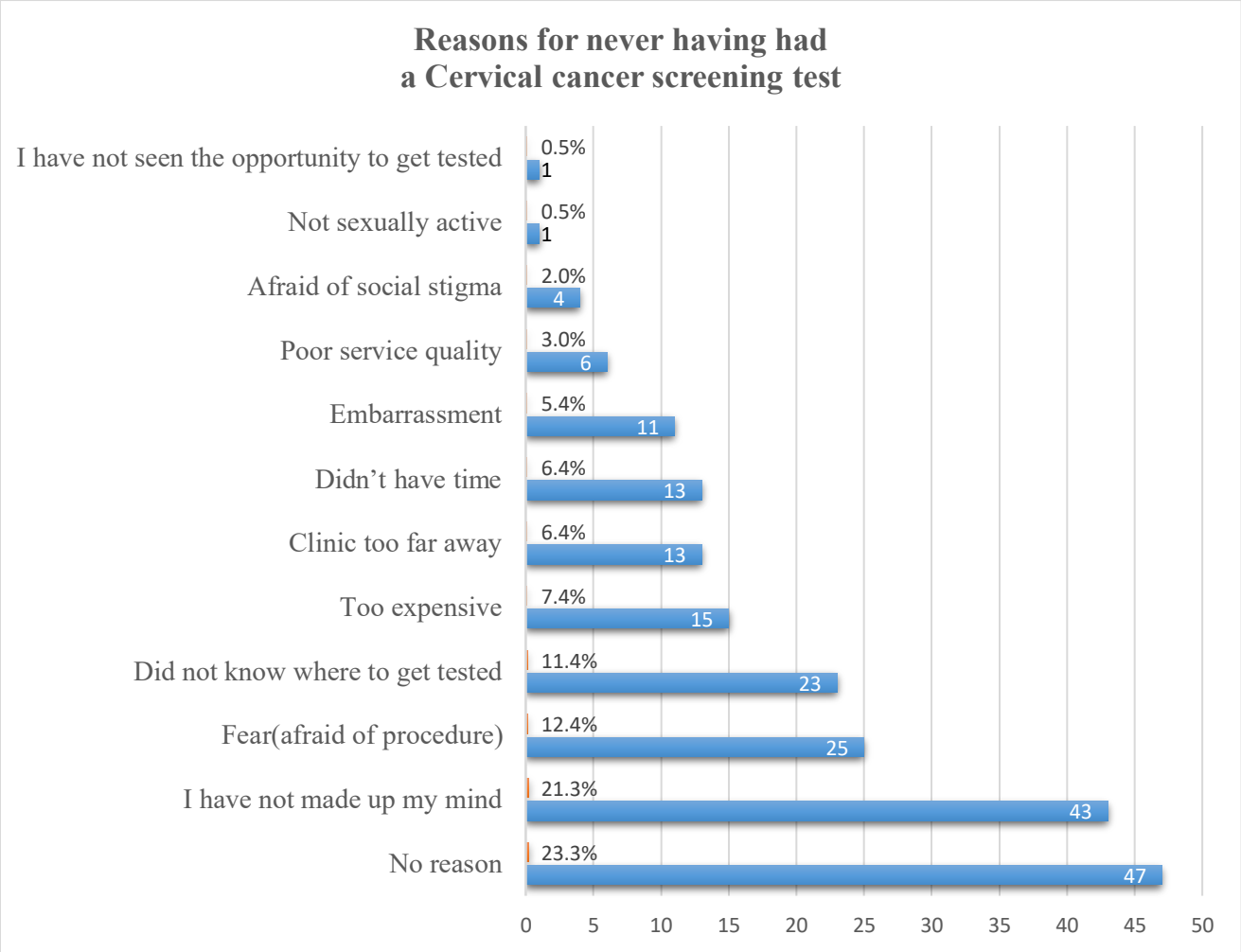

Figure 1: Reasons for never having had a Cervical cancer screening test

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Table 5: Factors associated with Knowledge of Cervical cancer and Uptake of Cervical cancer screening

		Level of Knowledge of Cervical cancer			X^2 (df)	*p-value*	Uptake of Cervical cancer screening	
Variables	**N**	**Poor**	**Fair**	**Good**			**Yes**	**No**
Age groups (years)								
<40	126	5(4.0)	30(23.8)	91(72.2)	0.333 (2)	*0.846*	25(19.8)	101(80.2)
≥40	52	3(5.8)	13(25.0)	36(69.2)			25(48.1)	27(51.9)
Marital Status								
Single	67	5(7.5)	18(26.9)	44(65.7)	2.918 (2)	*0.232*	6(9.0)	61(91.0)
Married	111	3(2.7)	25(22.5)	83(74.8)			44(39.6)	67(60.4)
Parity								
None	63	4(6.3)	19(30.2)	40(63.5)	3.044 (2)	*0.218*	4(6.3)	59(93.7)
Have children	115	4(3.5)	24(20.9)	87(75.7)			46(40.0)	69(60.0
Educational level								
Post-tertiary	79	1(1.3)	15(19.0)	63(79.7)	6.270 (2)	*0.043**	26 (32.9)	53(67.1)
Tertiary	99	7(7.1)	28(28.3)	64(64.6)			24(24.2)	75(75.8)
Healthcare profession								
Medicine	74	1(1.4)	11(14.9)	62(83.8)	10.056 (2)	*0.007**	23(31.1)	51(68.9)
Others**	104	7(6.7)	32(30.8)	65(62.5)			27(26.0)	77(74.0)
Number of years of practice								
< 10years	87	4(4.4)	21(23.1)	66(72.5)	0.130 (2)	*0.937*	13(14.3)	78(85.7)
≥10 years	91	4(4.6)	22(25.3)	61(70.1)			37(42.5)	50(57.5)

**Statistically significant; ** includes pharmacists, nurses, laboratory scientists, optometrists*

DISCUSSION

Cervical cancer is a major public health problem in many third world countries and the rates greatly varies worldwide due to uneven access to effective preventive measures. The knowledge, attitude, and practice of healthcare workers are crucial in the early detection and treatment. Hence this study sought to assess the level of knowledge of cervical cancer and determine the uptake of cervical cancer screening services and barriers amongst female healthcare professionals in Bayelsa State.

A greater majority of participants in this study demonstrated fair and good knowledge of cervical cancer. This was observed in other similar studies[7,12,13] This is to be expected given that as healthcare professionals, they are expected to serve as the source of information on cervical cancer to the general population. However, taking it a bit further, this study examined performances by reviewing the knowledge questions and statements showed that about 1 in 10 were still unsure or incorrectly identified the route of transmission of HPV. This is a fundamental knowledge that forms a major pillar in prevention and risk communication. Similar observations were observed in study done in China[20] however, a study in Italy[10] reported a significantly lower proportion of health workers who knew the causative agent for cervical cancer.

About 1 in 4 participants did not know or incorrectly responded to HIV being a risk factor for cervical cancer. This was quite surprising given the similarity in transmission of both viruses being majorly via sexual transmission. Correctly identifying that multiple sexual

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partners as responsible for the development of cervical cancer was 98.3% in our study which is similar to 96.8% recorded in a similar study done in Nigeria[13] and far higher than in an Ethiopian study which reported 13.6%.[14] About half of participants in this study do not know that cervical cancer runs in families and this was higher than observed in a study among female healthcare workers in Ethiopia[21] that 37.1% identified that cervical cancer runs in families. Similarly, one third of respondents did not know that smoking is a risk factor for cervical cancer. This was much lower when compared to a study in Abakiliki[22] where about 8 in 10 female health workers did not identify smoking as a risk factor. The observed differences may be because the latter study was on nurses only compared with ours, which focused on doctors as well. Furthermore, since smoking is not a common practice among Nigerian women the low knowledge of association of smoking with cervical cancer is not surprising. From this study 83.2% of the respondents identified post-coital bleeding as a sign of cervical cancer and this varied with similar studies done in Nigeria which reported 96.6%[13] and 57.7%.[22]

The best knowledge, practices and roles in a clinical field is often associated with extensive experience in the field often facilitated by the number of years in practice.[23] Most of the participants in this study had an average of 10.1-year experience in practice. This correlates with a similar study done in South Africa.[11] However, studies conducted in Gambia and India reported that length of service and knowledge of cervical cancer were not significantly associated with best knowledge.[9,24] The level of knowledge for cervical cancer services may be based on the level of training and length of service.

Development of any national cervical cancer prevention and control programme is pivotal in reducing morbidity and mortality associated with cervical cancer in sub-Saharan Africa [1] but the reported statistics in Nigeria show that there is still a lot of work to be done.[4] A major finding in this study was that a good number of participants stated that cervical cancer is incurable. This has significant implications on female health workers serving as advocates for early detection and treatment of cervical cancer. The commonest known screening modality in this study was Pap smear (97.2%) which is similar with studies[13,22] done in Nigeria and far higher than 40.5% recorded in a similar study in Southern Ethiopia[21] and 11% reported in a study in Delta State.[15] About 61.2% and 53.4% of the respondents recognized HPV DNA testing and VIA respectively as screening modalities for cervical cancer. Given the pivotal role of these tests, the levels of awareness amongst these critical sources of information highlights the need for more targeted training interventions to female healthcare workers. Thus, they can disseminate the right information to seek the same from them.

In this study, the observed high awareness of cervical screening failed to translate to increased uptake. The findings of this study reported that only 28.1% of the respondents had been screened for cervical cancer. However it was lower than that reported in Malawi (35.7%)[12] but higher than reported in Ethiopia[14] and Southwest Nigeria (20.4%).[13] A comparably higher uptake was reported in a study[25] in Abuja among female health workers which showed uptake of 67.7%. In this study, years of practice influenced the uptake of CCSS showing that the longer duration of work increased the likelihood of uptake of CCSS. This contrasted a study[26] in Abuja where staff who were less than 5 years in work experience were more likely to have test done. A study[10] in Italy that showed that prolonged work experience did not lead to improved uptake of services. Other determinants of uptake of CCSS in this study included age, marital status and having children. Although these speak to an increased sense of responsibility to undertake screening.

Amongst those who had been screened, the pap smear test was the most common contrasting a study done in Malawi[12] which reported VIA as the most common screening test done. This may be because of its availability, affordability and accessibility. It is still, concerning that, for healthcare professionals, who should be at the forefront of cervical cancer screening programmes, still face challenges in uptake. These calls for prompt action to increase awareness, to improve their attitudes, and to increase the uptake of screening services. Amongst the participants who had a pap smear done, only 1 had in addition had a HP) test done and only 2 had in addition to pap smear, had a VIA done. Given how expensive HPV is it is not surprising. In addition, both Pap smear and VIA are gynecological investigations which many find intrusive, and 'Embarrassment' was an identified barrier in this study to being screened. It is possible that making the HPV

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self-sampling option may improve uptake.[27] Majority of them screened more than 3 years prior to the study and the most common reason for screening was as part of a routine examination while the least reason was for symptoms of cervical cancer and an abnormal or inconclusive result. Only 1 respondent received treatment because majority of the results were normal and some were not retrieved. The non-retrieval results may result from fear of negative results, and this may be explained by the observed belief in this study by 1 in 3 respondents who stated that cervical cancer is incurable. This was similarly reported in other studies. [12,13,22] and highlights a key knowledge gap that needs to be corrected.

Exploring the reasons for not having been screened for cervical cancer in this, about 25.6% of the respondents have no reason why they have never been screened while 23.9% have not made up their mind. This differed from a study in southwest Nigeria [13]where lack of time was the most come reason reported. The commonest reason for not being screened was not knowing where to get tested and the test being expensive. If female health care professionals do not know where to access screening services, this may speak to the unavailability of the service which has been reported to be a barrier to uptake of testing. [14] Cost was also identified as a reason for not screening for cervical cancer in a similar study.[13] Therefore, given that this test is to be paid out of pocket as it is not covered under social health insurance for formal employees, there is need for a policy review to address financial access gaps with the consideration of the inclusion of this life-saving test in the benefit package thus making health insurance more responsive to health care needs. This calls for commitment from both government and concerned stakeholders as well as organizations to partner in publicizing and educating the populace on the importance of screening as well subsidizing the price of screening. Also, further qualitative research needs to be done to explore in depth beliefs, perceptions and perspectives of female healthcare professionals.

Higher levels of education and Professional cadre play a key role in uptake as this was a determining factor associated with the uptake of screening services in this study. Similar finding in a study in Malawi[12] and south-south Nigeria[15] showed the higher professional cadre increased uptake of cervical cancer screening.

There are some limitations in this study arising from the design being cross-sectional survey that cannot allude to a cause-and-effect relationship between examined variables and other factors such as sexual history could have influenced findings that were not captured in this study. However, this study was structured to does generate invaluable findings that can help with designing interventions conducting further research such as qualitative research. There may also have been the influences of recall bias.

CONCLUSION

This study observed that despite the high knowledge level of cervical cancer; the uptake of screening services remains poor. There are considerable gaps in knowledge that need targeted training and education to address the needs of women despite their professional status. Further research is required to explore observations around the poor uptake of screening services among this very critical population to strengthen ongoing efforts towards the elimination of cervical cancer and promote behavior change in the study context and Nigeria as a whole. It would be helpful to provide subsidization of screening programs as well.

Declarations

Conflict of Interest: The authors declare no conflict of interest associated with all the information presented in this research paper.

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