

## ORIGINAL ARTICLE

# Cervical Cancer Screening Practices of Antenatal Clinic Attendees in Garki Hospital Abuja, Nigeria

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### ABSTRACT

**Background:** Cervical cancer, a preventable disease, is the fourth most frequent cancer in women worldwide is a major public health problem especially in developing countries. The aim of the study was to assess the knowledge of cervical cancer and practice of cervical cancer screening among antenatal clinic attendees in Garki Hospital Abuja, Nigeria.

**Methods:** Two hundred and fifteen antenatal clinic attendees selected using systemic sampling techniques participated in this facility-based cross-sectional study. Data was collected using a structured, self-administered questionnaire and analyzed with IBM SPSS version 22.0. Statistical level of significance was set at  $p < 0.05$ .

**Results:** One hundred and twenty-two (57.0%) of the respondents were aged 30 – 39 years, 191 (89.3%) were married, 202 (94.4%) had tertiary level of education while 72 (33.6%) were primipara. Majority 191 (89.3%) were awareness of cervical cancer with health care workers 81 (42.4%) and mass media 72 (37.7%) as the predominant sources of information. Majority 157 (82.2%) mentioned abnormal vaginal bleeding as a symptom of cervical cancer while 28 (14.7%) do not know the symptoms of cervical cancer. Sixty-eight (35.6%) and 30 (15.7%) mentioned multiple sexual partners and early sexual exposures as risk factors for cervical cancer, respectively. Only 31 (16.2%) had screened for cervical cancer. Socio-demographic characteristics were not significantly associated with respondents' uptake of cervical cancer screening

**Conclusion:** The awareness concerning cervical cancer was high but the in-depth knowledge of its symptoms and risk factors was generally poor. The uptake of cervical cancer screening was abysmally low.

**Keywords:** Cervical cancer; Screening; Antenatal clinic attendees; Abuja.

### INTRODUCTION

Cervical cancer remains a major public health problem throughout the world. It is the fourth most frequent cancer in women with an estimated 570 000 new cases in 2018, and of the estimated more than 311 000 deaths from cervical cancer every year, more than 85% of these occur in low and middle income countries.<sup>1</sup> The World Health Organization (WHO) estimates that the contribution of cervical cancer to adult female death is 35%.<sup>2</sup> This statistics is a reflection of the avalanche of risk factors for cervical cancer which include but not limited to high rate of human papilloma virus (HPV) infections, multiple sexual partners, young age of marriage/early onset of regular sexual intercourse and low socio-economic

status which are prevalent in many developing countries of the world. Every woman who has ever been sexually active can develop cancer of the cervix. In Nigeria, approximately 10,000 women develop cervical cancer each year of which 8,000 die predominantly due to late presentation.<sup>2</sup> Although screening facilities are available in Nigeria, the incidence and mortality associated with cervical cancer remains high and many women present to health facilities with late stage disease.<sup>3,4</sup> This is not surprising because studies have shown that the uptake of cervical screening services and other cervical cancer prevention measures such as HPV vaccination are rudimentary and poorly utilized in Nigeria.<sup>5-11</sup>

Cervical cancer is preventable and curable at the latent pre-invasive stage and so early detection remains a key to preventing progression to life threatening advanced stage of the disease. Cytology (Pap test) screening has been very successful in lowering cancer incidence and mortality in countries where good quality screening is available.<sup>12</sup> In many

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developing countries including Nigeria, cervical cancer tends to present about 15 years earlier than it does in developed countries. Most women diagnosed of cancer of the cervix have not had a regular Pap smear or they have not followed up on abnormal Pap smear result and as many as 80% of these cases are detected in the advanced stages in which treatment, even when available, has a markedly reduced likelihood of success.<sup>13</sup>

The World Health Assembly adopted the global strategy to accelerate the elimination of cervical cancer as a public health problem and its associated goals and targets for the period 2020–2030.<sup>14</sup> This global strategy proposes that the 90-70-90 targets that must be met by 2030 for countries to be on the path towards cervical cancer elimination: 90% of girls are fully vaccinated with the HPV vaccine by age 15; 70% of women are screened with a high-performance test by 35 years, and again by 45 years of age and; 90% of women identified with cervical disease receive treatment.<sup>14</sup> In order to ascertain whether Nigeria is on track towards achieving this global strategy and to promote awareness of cervical cancer screening among women of child bearing age, this study was conducted to assess the knowledge of cervical cancer and practices of cervical cancer prevention among women attending antenatal clinic in Garki Hospital, Abuja, Nigeria.

## **MATERIALS AND METHODS**

### **Study site and population**

The facility-based cross-sectional study was carried out among women of childbearing age (15-49 years) attending ante-natal clinic in Garki Hospital Abuja, Nigeria. The hospital is a 100 bedded secondary healthcare facility in the Federal Capital Territory (FCT), providing both general and specialized services to the people of the FCT and its environs. The ante-natal clinic runs every weekday with an average attendance of about 100 women.

### **Sample size calculation and sampling**

The minimum sample size required for the study was calculated using the formula for single proportions ( $n = zpq^2/d^2$ ) in a cross-sectional study.<sup>15</sup> The following assumptions were made at 95% confidence interval: the estimate of the expected proportion ( $p$ ) of 13.3% being the proportion of rural women who had ever been screened for cervical cancer in Lagos, Nigeria,<sup>16</sup> and a desired level of absolute precision ( $d$ ) of  $\pm 5\%$ . After accounting for a non-response rate of 10%, the final sample size calculated for this study was 196.

A systematic random sampling technique was used to recruit the antenatal attendees for the

study. On each day of data collections, the list of all the attendees as recorded by the healthcare workers was used as a sampling frame. Using a pre-determined sampling interval derived from the total number of attendees and the number to be recruited for that day, participants were recruited systematically for the study. The first respondent was selected using simple random sampling from the first attendees who fall within the sampling interval.

### **Data collection and analysis**

Data was collected using a structured interviewer-administered questionnaire. The questionnaire contained questions on the socio-demographic characteristics of women, their knowledge of cervical cancer, and practices of cervical cancer screening including factors that influenced the uptake of cervical cancer screening. Data collected were entered into spreadsheet and analyzed using IBM SPSS version 22 (IBM Corp, Armonk, NY, USA). Chi-square statistical tests were used to test the association between the socio-demographic characteristics of the respondents and their practice of cervical cancer screening. A  $p$ -value less than 0.05 was considered statistically significant.

### **Ethical consideration**

Ethical approval to conduct this study was obtained from Ethics and Research Committee of University of Benin Teaching Hospital, Benin City (Protocol number ADM/E 22/A/VOL. VII/14686). Permission for data collection was obtained from the management of Garki Hospital while informed consent was obtained from the respondents before administering the questionnaire. Health education on cervical cancer and the importance of cervical cancer screening was given to the antenatal clinic attendees at the end of each data collection exercise.

## **RESULTS**

Two hundred and fourteen women of child bearing age were interviewed in this study. The socio-demographic characteristics shown in table 1 revealed that more than half of them 122 (57.0%) were in the age group of 30 – 39 years with only 11 (5.1%) aged 40 – 49 years. Majority of the antenatal clinic attendees were married 191 (89.3%) and Christians 174 (81.3%), while most of them had tertiary level of education 202 (94.4%). Concerning parity, one third of them were primipara 72 (33.6%) and another third were Para two and above 70 (32.7%).

Majority 191 (89.3%) of the respondents affirmed that they have heard of cervical cancer with health care workers 81 (42.4%) and mass

**Table 1: Socio-demographic characteristics of respondents**

Variables	Frequency (n=214)	Percent
<b>Age group (years)</b>		
15 - 19	1	0.5
20 - 29	80	37.4
30 - 39	122	57.0
40 - 49	11	5.1
<b>Marital status</b>		
Married	191	89.3
Single	21	9.8
Widowed	2	0.9
<b>Religion</b>		
Christianity	174	81.3
Islam	40	18.7
<b>Level of education</b>		
Secondary	12	5.6
Tertiary	202	94.4
<b>Parity</b>		
0	72	33.6
1	72	33.6
≥ 2	70	32.7

media 72 (37.7%) as the predominant sources of information. Majority 157 (82.2%) mentioned abnormal vaginal bleeding as a symptom of cervical cancer while 28 (14.7%) do not know the symptoms of cervical cancer. On the risk factors for cervical cancer, 68 (35.6%) mentioned multiple sexual partners while 30 (15.7%) mentioned early sexual exposures. Forty-two (21.9%) do not know any risk factor for cervical cancer. Some incorrect risk factors for cervical cancer mentioned by the respondents were alcohol consumption 9 (4.7%) and overweight 4 (2.1%). When asked if cervical cancer can be prevented, most 177 (92.7%) responded in the affirmative with majority 142 (80.2%) of them mentioning the use of Pap smear test (Table 2). Only 31 (16.2%) had been screened for cervical cancer. Among those who had screened for cervical cancer, 21 (67.7%) claimed they did it to know their cervical cancer status, 4 (13.0%) screened because of advice from a doctor while 3 (9.7%) screened as part of routine medical test. The frequency of cervical cancer screening showed that majority 25 (80.6%) had screened only once, while 3 (9.7%) claimed that they screened every year. Most 148 (92.5%) of the respondents who have not done cervical cancer screening in the past expressed willingness to carry out cervical cancer screening (Table 3).

Table 4 shows the association between socio-demographic characteristics and the cervical cancer screening practices of the respondents. The practice of cervical cancer screening increased with increasing age group ( $p=0.087$ ). Also, only those respondents with tertiary level of education had done cervical cancer screening in the past ( $p=0.374$ ). However, there was no statistically significant association between the socio-demographic characteristics of the

respondents and their practice of cervical cancer screening.

## DISCUSSION

It is quite worrisome that cervical cancer, a disease that can be prevented through screening programmes and totally curable when diagnosed early, is still documented as one of the leading causes of death among women in many developing countries of the world including Nigeria. This study revealed an abysmally low level of uptake of cervical cancer screening among the antenatal clinic attendees studied. About two-third of the women of child bearing age studied were aged between 30 and 49 years. This correlates with the age recommended by the World Health Organization (WHO) for secondary prevention of cervical cancer in women using screening with a high-performance test equivalent or better than HPV test and then followed by immediate treatment or as quickly as possible, of pre-cancer lesions.<sup>1</sup>

The respondents demonstrated an encouraging level of awareness of cervical cancer. This could have resulted from most of them having tertiary level of education and the study location being the federal capital territory (FCT) of Nigeria. Similar reports have been documented in studies carried out in other urban cities in Nigeria.<sup>4,17</sup> However, a study among rural women in Lagos State showed a very low level of awareness of cervical cancer.<sup>16</sup> This further buttresses the huge rural-urban disparities as regards awareness of health issues and risk perception in Nigeria.

**Table 2: Knowledge of cervical cancer by respondents**

<b>Variables</b>	<b>Frequency</b>	<b>Percent</b>
<b>Have heard of cervical cancer (n=214)</b>		
Yes	191	89.3
No	23	10.7
<b>Source of information on cervical cancer (n=191)</b>		
Health care worker	81	42.4
Mass media (radio, TV and newspaper)	72	37.7
Could not remember	20	10.5
Friend/colleague	18	9.4
<b>Symptoms of cervical cancer (n=191)</b>		
Abnormal vaginal bleeding	157	82.2
Severe headache	4	2.1
Fever	2	1.0
Do not know	28	14.7
<b>Risk factors of cervical cancer (n=191)</b>		
Multiple sexual partners	68	35.6
Early sexual exposures	30	15.7
Increasing age	24	12.6
High parity	10	5.2
Alcohol consumption	9	4.7
Overweight	4	2.1
Race	4	2.1
Do not know	42	21.9
<b>Cervical cancer can be prevented (n=191)</b>		
Yes	177	92.7
No	14	7.3
<b>Ways cervical cancer can be prevented (n=177)</b>		
Pap smear	142	80.2
Condom	22	12.4
Drugs	12	6.8
Do not know	1	0.6

**Table 3: Practice of cervical cancer screening by the respondents**

<b>Variables</b>	<b>Frequency</b>	<b>Percent</b>
<b>Ever had cervical cancer screening (n= 191)</b>		
Yes	31	16.2
No	160	83.8
<b>Reason for taking cervical cancer screening (n=31)</b>		
To know my status	21	67.7
Advice from friend	4	13.0
Advice from doctor	4	13.0
Routine medical test	3	9.7
<b>Frequency of cervical cancer screening test (n=31)</b>		
Just once	25	80.6
Every 2 - 3 years	3	9.7
Every year	3	9.7
<b>Willingness to take Pap smear test (n = 160)</b>		
Yes	148	92.5
Not sure	9	5.6
No	3	1.9

The high level of the women's awareness of cervical cancer did not translate to adequate knowledge of cervical cancer symptoms, its associated risk factors and whether it can be prevented. Of particular note is the fact that, none of the respondents knew the following important risk factors of cervical cancer: HPV infection, herpes infection, low socioeconomic status, low immune status, smoking, poor genital hygiene and use of oral contraceptive

pills (OCP). This dearth of knowledge of cervical cancer is a direct precursor to poor risk perception of the magnitude of the burden of the morbidity and mortality associated with cervical cancer, as well as the low awareness and uptake of cervical screening services. The major implication of this finding is the fact that Nigeria is not on course in the global strategy to accelerate the elimination of cervical cancer as a public health problem.

**Table 4: Socio-demographic characteristics and the practice of cervical cancer screening**

Variables	Cervical cancer screening		X <sup>2</sup>	P-value
	Yes n (%)	No n (%)		
<b>Age group (years)</b>				
15 – 29	8 (12.3)	57 (87.7)	4.893	0.087
30 – 39	19 (16.4)	97 (83.6)		
40 – 45	4 (40.0)	6 (60.0)		
<b>Religion</b>				
Christianity	27 (16.8)	134 (83.2)	0.219	0.639
Islam	4 (13.3)	26 (86.7)		
<b>Marital status</b>				
Single	4 (23.5)	13 (76.8)	2.501	0.286
Married	26 (15.1)	146 (84.9)		
Widowed	1 (50.0)	1 (50.0)		
<b>Parity</b>				
0	11 (16.7)	55 (83.3)	0.213	0.899
1	9 (14.5)	53 (85.5)		
≥ 2	11 (17.5)	52 (82.5)		
<b>Level of education</b>				
Secondary	0 (0.0)	4 (100.0)	0.792	0.374
Tertiary	31 (16.6)	156 (83.4)		

Many previous studies in Nigeria<sup>9-11,17-20</sup> and other sub-Saharan African (SSA) countries like Ghana<sup>21,22</sup> and Ethiopia,<sup>23</sup> have also reported low knowledge of cervical cancer among women of child bearing age. There is great concern that Nigeria with a population of over 50 million women aged 15 years and older who are at risk of developing cervical cancer,<sup>2</sup> contributes immensely to the poor health indices arising from the burden of cervical cancer at both the regional and global levels. A United Nation Children's Fund (UNICEF) report on Nigeria stated that while the country represents 2.4% of the world's population, it currently contributes 10% of global deaths for pregnant mothers.<sup>24</sup>

In this study, the uptake of cervical cancer screening was abysmally low (16%) despite the fact that most the respondents ascertained that cervical cancer can be prevented through Pap smear screening. This further demonstrated that awareness do not necessarily translate into uptake of health intervention programmes, thereby underscoring the need for continuous health education messages spiced with constant reinforcement to promote uptake of cervical cancer screening among women of child bearing age. However, it is surprising that the uptake was lower than that of 46.6% reported in a previous study carried out among women of child bearing age attending the gynecology clinics of five government hospitals in FCT, Abuja.<sup>10</sup> The reason for this disparity which showed a decrease rather than an increase in uptake in the same study locale over a period of five years needs to be unraveled.

The low uptake of cervical cancer screening is comparable to what was reported in many studies done in southern Nigeria where the values ranged from 0.6% to 13.6%.<sup>3,4,7,9,10,16,19,</sup>

<sup>25,26</sup> However, the findings contrasted few studies that reported far higher update of cervical cancer screening by women of child bearing age. They include 45.2% and 60.0% reported in Taraba State, North-East Nigeria,<sup>27</sup> and Nnewi, South-Eastern Nigeria<sup>20</sup> respectively. The low update of cervical cancer screening has far reaching implication in Nigeria in particular and SSA in general. A recent review confirmed that the incidence of cervical cancer has been increasing in SSA.<sup>28</sup> This underscores the need for high-level advocacy, support for prevention (vaccination against HPV and population-wide screening), and careful monitoring of results through population-based registries, to reduce the burden of the disease in the region.

This study found that most of the women who have not had cervical cancer screening expressed willingness to utilize cervical screening services. This finding is quite encouraging but other barriers to cervical screening uptake among women of child bearing age need to be addressed systematically and holistically. Some of the barriers to cervical cancer screening uptake include but not limited to ignorance, illiteracy, poor risk perception, having many contending issues, nonchalant attitude to their health, financial constraint, fear of having a positive result, attitude of health care workers, lack of information/counselling, lack of support from partners and significant others and non-availability of cervical cancer screening services in healthcare facilities.<sup>13,29-32</sup> Awareness campaigns, health education on cervical cancer, and interventions targeting these barriers are very fundamental in the fight against cervical cancer. These strategies should also target the spouses of women of childbearing age because men play a significant role in the

health-seeking behaviour of their wives in Nigerian. A study in South-East Nigeria reported that men were favorably disposed towards their wives having cervical cancer screening, but on a condition that the wives must first obtain their consent.<sup>33</sup> In a Ghanaian study, several men indicated that they would be willing to provide spousal support for cervical cancer screening if they knew more about the disease and the screening methods.<sup>34</sup>

In this study, the uptake of cervical cancer screening increased with increasing age and it was prevalent only among respondents with tertiary level of education. Although we did not find any statistically significant association between the socio-demographic characteristics of the respondents and their uptake of cervical cancer screening, this does not in any way preclude the influence of these factors on the utilization of cervical cancer screening services by women.

**Conclusion:** The awareness of cervical cancer was high but the in-depth knowledge of its symptoms and risk factors was generally poor among the respondents. The uptake of cervical cancer screening was abysmally low.

To achieve the WHO target of eliminating cervical cancer by 2030, the Federal Government of Nigeria, through the Federal Ministry of Health and the National Primary Health Care Development Agency, should take urgent steps to address in an all-inclusive manner, the barriers militating against the uptake of cervical cancer screening services by women of child bearing age. Men, women and health care workers should be targeted in a sustained nation-wide health education campaign to promote cervical cancer prevention activities. Healthcare facilities at all levels of the healthcare delivery system should be well equipped to offer accessible and affordable cervical cancer prevention services to all women of child bearing age in Nigeria. There is a need for the Federal Ministry of Health to formulate a policy mandating all healthcare facilities to give health education on cervical cancer to any woman of childbearing age who visited a healthcare facility.

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**Authors' contributions:** CJP contributed to conception, design, data collection, data analysis and interpretation of data. ARI

contributed to design, interpretation of data and drafted the manuscript. All authors read and approved the final version of the manuscript.

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