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CTLSR 1 (1): 53-69 (June, 2022)



Current Trends in Life Science  
Research

ISSN: 2814-1679

## Socio-demographic characteristics associated with prevention practices of cervical cancer among women of reproductive age in internally displaced persons' camps in Federal Capital Territory, Abuja

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### Abstract

Cervical cancer is a public health menace affecting Nigerian women especially in the north east. Insurgency in the northeast has displaced millions of women and girls to environments that increase their risks to cervical cancer. The persistent high mortality rates due to cervical cancer in Nigeria despite being a preventable disease are reasons to explore cervical cancer research among the vulnerable groups of women in IDP camps. Hence, this study aimed to assess socio-demographic characteristics associated with prevention practices of cervical cancer among women of reproductive age in IDP camps in Abuja. This was a cross-sectional descriptive study. The population was women of reproductive age (15-49) years in IDP camps in FCT, who consented through a validated interviewer administered questionnaire. The results showed the mean age of participants was 27.66 years and majority (43.1%) had at least secondary school education with 21.6% reporting non-formal education. The assessed preventive practices of cervical cancer showed a mean (SD) of 5.123 (3.323) which translates to 34.2% prevention level. Findings also reported a statistically significant relationship between age and cervical screening practices [OR=1.19; p = 0.37; 95% CI: (1.01-1.41)]. In addition, a statistically significant relationship was reported between marital status and cervical cancer screening [p = 0.36; OR = 2.01; 95% CI (1.04 – 3.877)] and getting information from clinic [p = 0.01; OR = 2.55; 95% CI (1.17-5.59)]. Findings from this study revealed poor cervical cancer screening practices and recommends free periodic cervical cancer screening services for women and girls in IDP camps.

**Keywords:** Attitudinal Disposition, Cervical Cancer, Prevention Practice, Socio-demographic characteristics, Reproductive age women.

## **Introduction**

Cervical cancer disease is characterized by the abnormal growth of cells in the cervix, the region of the uterus that joins the vagina. According to the World Health Organization (WHO) in 2022, it is the fourth most common type of cancer worldwide, primarily affecting women of all ages. A report by WHO (2022) revealed, an estimated 604,000 new cases and 342,000 cervical cancer deaths occurred in 2020 of which 90% of them were from low- and middle-income countries. Almost all cervical cancer cases (99%) are linked to infection with high-risk human papilloma viruses (HPV) which is an extremely common virus transmitted through sexual contact (WHO, 2022).

Globally, age-standardized incidence of cervical cancer among women was 13.3 per 100 000 women in 2020 and varied widely among countries, with rates ranging from 80 per 100,000 in highest- risk countries to < 4 per 100 000 in lowest-risk countries (WHO, 2022). Cervical cancer incidence and mortality rates in high income countries in the past thirty years have plunged largely, due to increased awareness, immunisation against HPV (Amu, Ndugba & Olatona, 2019) and prompt treatment of precancerous lesions as well as general improvement in the treatment of invasive cervical cancer. Whereas in Sub-Saharan Africa, cervical cancer is still the second most common cause of cancer death in women where 65–85% of cervical cancer patients are diagnosed at advanced stage and have poor treatment outcomes (Sengayi-Muchengeti et al., 2020). The onset of HIV/AIDS epidemic that is highest in the region has also contributed to rise in cervical cancer burden in this region (WHO, 2022).

Nigeria is rated tenth in cervical cancer mortality globally (Okoye 2014; Oluwatosin et al., 2020). In 2018, Nigeria accounted for almost half (14,089) the 31,955 cervical cancer new cases and 23,529 deaths that occurred in West Africa (ICO/IARC, 2017). The Sustainable Development Goal (SDG) particularly for ensuring healthy lives for all through target 3.4 (to reduce one-third premature mortality from non-communicable disease through prevention and treatment and promotion mental health and wellbeing) calls for a reduction in maternal mortality. In line with this, the WHO in 2020 developed a triple-intervention strategy to eliminate cervical cancer by 2030. However, the ICO/IARC in 2021 ranked cervical cancer as the second most frequent cancer among women of reproductive age (15-49) years in Nigeria. The report (IARC/ICO in 2021) showed, an estimated 56.2 million women aged 15years and older are at risk of developing cervical cancer with national standardized prevalence rate of 33.0 per 100,000. Consequently, a study by (Oguntayo et al., 2011) revealed high burdens (65.7%) of cervical cancer in Northern Nigeria and a recent study (Abba et al., 2019) reported a relatively higher burden in the north east. Persistent infection with high-risk 15 HPV types is a major risk factor for cervical cancer with HPV-16 and HPV-18 infections which account for 99% of the total cases (WHO, 2022). Early marriage, younger age at first sexual intercourse and polygamy which are risk factors to HPV persistent infection, are documented practices in Northern Nigeria that elevates the burden of cervical cancer in this region (Ajuwon, Faromoku, Ladipo & Olaleye, 2006).

Boko haram insurgencies and various conflicts in northeast Nigeria have caused many people to flee their homes and dwell in IDP camps quartered in different states in Nigeria. Majority of the camps in Abuja constitutes women who are inclusive of the cervical cancer vulnerable group. People living in these camps have poorer health (Olawale, 2015) and a greater frequency of sex-related practices that result in sexually transmitted infections including HIV and high-risk HPV (Atim, Kiwanuka, Lakor, Patel, Schechter, Sewankambo, et al., 2014). The women and girls in the camps are exposed to sexual violence presenting as coerced and forced sexual intercourse, sexual harassment and commercial sex (Amelia et al., 2020). These experiences and behaviors are known predictors to HPV and long-term risk of developing invasive cervical cancer (Christopher et al., 2020, Rujumba et al., 2010).

Cervical cancer is a preventable disease currently with available interventions. Approaches currently used for cervical cancer prevention includes; Pap smear test and VIA/VILLI used for screening for precancerous cells, and vaccination against the causal agent, HPV. However, despite these established preventive measures developed over the years to address this public health challenge, the problem still persists in Nigeria. A study by Adegoke, Adelowo & Ilevbare (2020) revealed relatively low uptake levels in Nigeria. In addition, Oguntayo et al. (2011) revealed that, while illiteracy remains a major contributing factor to the high rates of cervical cancer, poverty and accessibility to screening facilities, play roles in the low uptake screening levels.

Effective use of these screening services, reduces incidence and mortality rates of cervical cancer (IARC, 2005). In developed countries, routine cervical cancer screening saves up to 80% of cervical cancer cases by detecting and treating precancerous lesions early (Finnochario-Kessler et al., 2016). Whereas uptake of cervical cancer screening services remains relatively low Nigeria remains relatively (Adegoke et al., 2020). This is evident in a study by Musa et al., (2016) that revealed, majority of cervical cancers in Nigeria are detected at advanced stages with low survival probability due to inadequate access to cervical cancer health services. Furthermore, previous studies (Ajayi et al., 1998; Ayinder et al, 2003) have shown poor knowledge about cervical cancer, contributes to the persistent high case fatality of the disease. In addition, some studies have identified socio-demographic predictors of cervical cancer knowledge and screening among various populations (Skaer et al., 1996; Seow et al., 1995). Factors with positive correlates identified Includes marital status, having higher income, longer years of education and age. However, these factors are said to vary according to populations (Olusola et al., 2005). In addition, there continue to remain dearth in information on cervical cancer practices among women of reproductive age in IDP camps. Therefore, this study was aimed at assessing the socio-demographic characteristics (age, religion, ethnicity, educational attainment and marital status) associated with preventive practices of cervical cancer among women of reproductive age (15-49) years in IDP camps in Abuja.

## **Methodology**

*Study design, population and Area*

This was a cross-sectional descriptive study conducted in IDP camps, Abuja. The study location Abuja, is a rapidly growing city which lies in the central part of Nigeria, in the Federal Capital Territory. The city is approximately 300 miles (480 km) northeast of Lagos, the former capital (until 1991) and it has six area council areas. The people of Abuja are of multi-ethnic indigenes of ranging from Igbo, Yoruba among others, but predominantly Hausas. The official language is English and Hausa.

#### *Sample size determination and sampling*

The required sample size was estimated using Leslie Kish formula with 95% CI, 5% margin of error, and 50% of population proportion was assumed as the prevalence of cervical cancer to maximise sample size. In addition, 10% non-response rate was added and the total calculated sample size was 422. Five IDP camps were purposively selected for this study and two stage sampling method was employed to select the participants. The participants from the camps were selected by distributing the participants into proportions in the first stage and in the second stage the participants were selected using snow balling. Inclusion criteria included all women and girls of reproductive age (15-49) who are members of the selected IDP camps and exclusion criteria was women who were seriously ill.

#### *Data collection technique*

Following the explanation of the research and considering confidentiality issues, quantitative data were collected using a reliable 10-item questionnaire. The variables measured in this study included certain socio-demographic characteristics of the women and girls of reproductive age in the IDP camps. This included their age, religion,

ethnicity, educational attainment and marital status. Other measures included prevention practice of cervical cancer.

The instrument for this study was adopted from literature and contextualised based on the study objective. Initially the questionnaire was developed in English and translated into Hausa by language experts.

#### *Measures*

The instrument measured the level of practice regarding cervical cancer prevention. The preventive behaviour was operationalised in the questionnaire using 4-response type Likert scales of *Not at all, Rarely, Occasionally and Always* for practice item and coded Zero for practices that will put the respondents at risk of cervical cancer while 3-points indicates preventive practice that is most likely to prevent cervical cancer. The predictive variable interests were the socio demographic characteristics (age, ethnicity and educational attainment).

#### *Data analysis*

Data were entered into Kobo tool box and transported into SPSS version 21 for analysis. Descriptive information was presented using tables and figures. Frequency and percentage were performed to compute the proportion of groups among the study participants. Chi-square analysis was used to determine the association between predictors and outcome variables. Odds ratios with 95% Confidence Intervals were computed; a P value < 0.05 was considered as statistically significant.

## **Results**

### **Socio-demographic Data of the women of Reproductive Age**

Table 1 shows a socio-demographic characteristics of participants. Four hundred and twenty-two participants gave their consent to participate in the study. The overall mean age of the participants in this study was 27.66years. Most of the participants (95.7%) were of Hausa ethnicity, followed by Fulani (1.7%) and Igbo (0.9%). Majority (43.1%) had at least secondary education with 21.6% reporting non-formal education. More than half of the Participants (80.3%) were married and 76 (18%) were single or never married.

**Table 1: Demographic Characteristics of the Participants in the Study.**

Variables	Respondents in this study N = 422	
	Frequency (N)	Percent (%)
<b>Age of Participants</b>		
15-19	52	12.3
20- 24	94	22.3
25- 29	129	30.6
30- 34	66	15.6
35- 39	42	10.0
40- 44	22	5.2
45- 49	17	4.0
<b>Religion</b>		
Christian	113	26.8
Muslim	309	73.2
<b>Ethnicity</b>		
Yoruba	2	0.5
Igbo	4	0.9
Hausa	404	95.7
Fulani	7	1.7
Others	5	1.2
<b>Educational Attainment</b>		
Non-formal	91	21.6
Primary	137	32.5
Secondary	182	43.1
University	9	2.1
<b>Others</b>	3	0.7
<b>Marital Status</b>		
Single or never married	76	18.0
Married	339	80.3
Divorced	6	1.4

Widowed	1	0.2
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### **Cervical cancer prevention practices among the women**

Exploring frequency distribution for the study related to cervical preventive practices among women, 40 (9.5%) of them claimed to have all the information about cervical cancer from the clinics required for adequate protection from cervical cancer and only 60 (14.2%) always go for cervical cancer screening every 2-3years (Table 2). On the other hand, 217 (51.4%) of the participants responded not at all, to I use condom to protect myself from contracting HPV and 242 (57.3%) always have unprotected sex with a single sexual partner to prevent cervical cancer. More than half of the participants (52.4%), do not abstain from sexual inter course to prevent cervical cancer.

When the overall level of cervical cancer preventive practices was measured for the women on a 15- point reference scale, the result showed that participants scored a mean of 5.123 with a standard deviation of 3.32 (See Table 3). When the overall prevention behavior related to cervical cancer was assessed based on their mean scores, it was found out that cervical cancer prevention practices showed 34.1%.

### **Association between socio-demographic characteristics and cervical cancer prevention practice**

Among 422 study participants, only 9.5% of the women get information from the clinic and further analysis with binary logistic regression, revealed no association between age groups in this practice (see table 3). Regarding cervical cancer screening, only 14.2% of the women go for cervical cancer screening and the proportion of women who go for cervical cancer screening at ages 15-

19 was lower (0.9%) than women aged 20-24 (3.3%). Further analysis with binary logistic regression identified a statistically significant relationship (see table 4), between the age groups and cervical cancer screening practice [OR=1.19;  $p = 0.37$ ; 95% CI: (1.01-1.41)].

Religion to prevention practices of cervical cancer analysis revealed, 12.3% of Christian women engaged in unprotected sex and this was lower compared to the Muslim women (45.0%). Also, 42.2% of Muslim women do not go for cervical cancer screening and this was higher than Christian women (2.1%). Interestingly, binary logistic regression between religion and having unprotected sex (see table 6) showed a statistically significant relationship [ $p= 0.004$ ; OR = 1.89; 95% CI (1.22 – 2.93)].

Analysis of ethnicity to prevention practices revealed that, among the respondents, 23.5% of Hausa women abstained from sexual intercourse compared to women of Igbo ethnicity (0.2%). However, binary logistic analysis between ethnicity and prevention practices reported no significant association (see table 4, 5, 6, 7, 8).

Regarding educational attainment, only 5.9% of the women with primary education go for cervical cancer screening. This was found to be higher than women with university education (0.2%). In addition, 9.5% of the women with primary education practice abstinence and this was higher than women with university education (0.5%). In addition, binary logistic analysis between educational attainment and the practice of regular cervical cancer screening (see table 4) revealed a statistically significant relationship [ $p= 0.002$ , OR = 0.59; 95% CI (0.43-0.82)].



Assessment on the association between marital status and prevention practices reported, 8.5% of the married women received information from the clinic.

**Table 2: Frequency Distribution of Respondents' Cervical Cancer Prevention Practices.**

<b>Prevention Practices Variable</b>	<b>Respondents in this study N = 422</b>			
	<b>Not at All (%)</b>	<b>Rarely (%)</b>	<b>Always (%)</b>	<b>Occasionally (%)</b>
I get all the information about cervical cancer and how to protect myself from the clinic	250 (59.2)	130 (30.8)	40 (9.5)	2(0.5)
I go for cervical cancer screening every 2-3years	282 (66.8)	78 (18.5)	60 (14.2)	2 (0.5)
I use condom to protect myself from contracting HPV	217 (51.4)	112 (26.5)	90 (21.3)	3 (0.7)
I have unprotected sex with a single sexual partner to prevent cervical cancer	66 (15.6)	99 (23.5)	242 (57.3)	15 (3.6)
I abstain from sexual intercourse to prevent cervical cancer	221 (52.4)	99 (23.5)	100 (23.7)	2 (0.5)

**Table 3: Level of Cervical cancer Prevention Practices measured on a 15-point reference scale**

Prevention Practices Variables	Frequency	Percentage (%)	Mean	Standard Error (SE)	Standard Deviation (SD)
0-5 (Poor)	274	64.9			
6-10 (Average)	110	26.1	5.123	0.161	3.323
11-15(Good)	39	9.0			
<b>Total</b>	<b>422</b>	<b>100</b>			

**Table 4: Socio-demographics and getting information about cervical cancer from the clinic**

Characteristics	B	SE	Sig.	Exp (B)	95% CI for EXP (B)	
					Lower	Upper
Age	0.144	0.102	0.155	1.155	0.947	1.410
Religion	-0.100	0.361	0.782	0.905	0.446	1.835
Ethnicity	0.300	0.532	0.955	1.030	0.363	2.923
Educational attainment	-0.211	0.192	0.271	0.810	0.556	1.180
Marital Status	0.939	0.399	0.019	2.559	1.170	5.593

**Table 5: Socio-demographics and cervical cancer screening practice**

Characteristics	B	SE	Sig.	Exp (B)	95% CI for EXP (B)	
					Lower	Upper
Age	0.180	0.086	0.037	1.197	1.011	1.1417
Religion	-0.038	0.309	0.902	0.963	0.526	1.763
Ethnicity	0.135	0.439	0.759	1.145	0.484	2.707
Educational attainment	-517	0.167	0.002	0.596	0.430	0.827
Marital Status	0.699	0.334	0.036	2.013	1.045	3.877

**Table 6: Socio-demographics and Use of condom**

Characteristics	B	SE	Sig.	Exp (B)	95% C.I for EXP (B)	
					Lower	Upper
Age	-0.103	0.79	0.194	0.902	0.772	1.054
Religion	0.064	0.268	0.811	1.066	0.631	1.801
Ethnicity	-0.152	0.398	0.703	0.859	0.394	1.876
Educational attainment	0.000	0.139	0.999	1.000	0.762	1.312
Marital Status	-0.306	0.269	0.254	0.736	0.435	1.247

**Table 7: Socio demographics and unprotected sex practice**

Characteristics	B	SE	Sig.	Exp (B)	95% C.I for EXP (B)	
					Lower	Upper
Age	0.080	0.066	0.226	1.083	0.952	1.233
Religion	0.639	0.223	0.004	1.894	1.224	2.932
Ethnicity	-0.159	0.328	0.627	0.853	0.448	1.622
Educational attainment	-0.67	0.118	0.567	0.935	0.742	1.178
Marital Status	0.360	0.233	0.122	1.433	0.908	2.262

**Table 8: Socio demographics and Abstinence**

Characteristics	B	SE	Sig.	Exp (B)	95% C.I for EXP (B)	
					Lower	Upper
Age	0.18	0.74	0.811	1.018	0.880	1.177
Religion	0.368	0.271	0.174	1.445	0.850	2.457
Ethnicity	-0.491	0.417	0.238	0.612	0.270	1.385
Educational attainment	-0.299	0.136	0.027	0.741	0.568	0.967
Marital Status	0.504	0.274	0.066	1.655	0.967	2.832

This was relatively higher when compared to single or unmarried women (0.5%). In addition, a higher proportion (12.6%) of married women go for cervical cancer screening compared to single or unmarried women (1.2%). Further analysis with binary logistic regression analysis revealed a statistically significant relationship (see table 3) between marital status and getting information from the clinic [ $p= 0.01$ ; OR = 2.55; 95% CI (1.170 –5.59)] and also between, marital status and cervical cancer screening practice [ $p= 0.036$ ; OR = 1.89; 95% CI (1.04 – 3.45)] respectively and (see table 4).

## **Discussion**

Nigeria continues to account for majority of the cervical cancer cases and deaths in West Africa (ICO/IARC, 2017). Higher burden of cervical cancer cases has been reported in northern Nigeria especially in the northeast (Atanda & Tella, 2018; Oguntayo et al., 2011) due to illiteracy and high rates of early marriage and polygamy (Ajuwon et al., 2006). Boko Haram insurgency in northeastern Nigeria has left millions of women and girls displaced, rendering them to environments that increase their risk to cervical cancer. The persistent high mortality rates due to cervical cancer despite being a preventable disease are reasons to explore preventive practices as regards to cervical cancer among the vulnerable groups of women in IDP camps. Hence, this study assessed socio demographics characteristics associated with cervical cancer prevention practices in IDP camps.

Finding regarding cervical cancer preventive practices of the research participants, revealed that more than half of the participants (57.3%) engage in unprotected sexual activity with their sexual partners.

This conclusion is comparable to the findings of a prior study done in Ethiopia (Shimeles, 2015) and Nigeria (Akujobi, et al, 2008). Among respondents in South Africa (Hoque et al., 2013) and Nigeria, having unprotected intercourse with sexual partners was acknowledged as a substantial risk factor for cervical cancer (Isara, et al, 2013). The level of cervical cancer preventive behaviours in this study was abysmally low; Aboyeji et al. (2004), Gharoro et al. (2006), and Adefuye (2006) also revealed a low level of preventative practices among the study participants. This study found that ignorance, misunderstandings, and religious views were among the factors preventing respondents from engaging in cervical cancer preventive methods. On the basis of this data, it may be assumed that 54.8% of the population was susceptible and at risk of acquiring cervical cancer, given that 85.6% of the population had never been vaccinated and 54.8% did not engage in screening and preventative procedures. These findings concurred with those of Ezem (2007) and Ahmed (2013), who demonstrated a low uptake of cervical screening in Owerri. Since screening is crucial to early cancer diagnosis and, consequently, a better prognosis, there is a need to increase screening service coverage and utilisation. Identifying and resolving obstacles to cervical cancer screening can accomplish this.

The study further revealed that only 9.5% of the participants get information on cervical cancer from the clinic. However, this finding is relatively lower (12.8%) than Tope et al., (2019) in south West Africa. This could be due to their poor access to health facilities. The study also reported a statistically significant association between age and cervical cancer screening practice. This

finding is similar to a study done in Ethiopia (Abebe et al., 2020). Also, women of ages 20-24years (14.2%) were shown to go for regular cervical screening more than ages 15-19years (0.9%). The finding was similar to studies done in South Africa and Portland Jamaica that revealed, women of older age tend to have higher odds to cervical cancer screening (Peltzer et al., 2014; Ncube et al., 2015). Older women have a higher likelihood to develop cervical cancer than younger, however, it is important to consider as they are sexually active.

Analysis of religion characteristics to practices revealed, 45% of Muslims practice unprotected sex and this is higher compared to the Christians (12.3%). However, religion showed a significant association with the practice of unprotected sex. The possible explanation for this could be the practice of polygamy and early marriage common among Muslims which is a risk factor to cervical cancer. In addition, majority of the population were Muslims.

Analysis of ethnicity to prevention practices revealed no significant association however, among the respondents, there were more Hausa women abstained from sexual intercourse compared to women of Igbo ethnicity

Educational attainment revealed a statistically significant relationship with cervical cancer screening practice. This finding is consistent with previous studies (Akokuwebe et al 2021; Stefan et al.,2015), suggesting that high concentration of educated women can increase the utilisation of health care facilities, including cervical cancer screening services.

The study also revealed a significant association between getting information

from the clinic and going for cervical cancer screening practices to marital status of the women. This finding is similar to Bewket et al., (2020) study which explained that, women who are single, divorced or married are more likely to engage in cervical cancer screening than married people. Also, the study revealed 45.7% of married women do not get information from the clinic which is higher compared to single women (12.8%). In addition, the finding displayed marital status to have a higher likelihood of engaging in cervical cancer prevention practices. Therefore, engaging partners to act as a form of social support in health education regarding cervical cancer is likely to improve the prevention practices of the women.

## **Conclusion**

The study aimed to determine the socio-demographic characteristics associated with cervical cancer prevention practices. Based on the findings, age, educational attainment and marital status were significantly associated with cervical screening practice. In addition, educational attainment showed significance with abstinence. Therefore, periodic support of free cervical cancer screening should be provided for women and girls in IDP to allow for easy access and improved prevention practices to cervical cancer. Overall, marital status showed more likelihood to cervical cancer screening practices. Hence, establishing intervention that educates partners on cervical cancer could improve prevention practices to cervical cancer.

## **Limitation of the study**

The study was restricted to just five IDP camps given that they were the main recognised and coordinated camps in Abuja

with camp leaders. Consequently, it may not be a genuine portrayal of what exists among women of reproductive age in other IDP camp in Nigeria.

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