Original Article

Cervical Cancer Screening Knowledge, Uptake and Barriers among Female Undergraduates in a Nigerian University

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Abstract

Background: Cervical cancer is a highly preventable disease that disproportionally affects women in developing countries with an estimated incidence rate of 33 cases per 100,000 women in Nigeria**.** Over, the year's awareness and uptake of cervical cancer screening services have remained poor in developing countries. Lack of knowledge and poor attitude towards the disease and its risk factors can affect screening practice and development of preventive behaviour for cervical cancer.

Aim: This study assessed the level of knowledge and barriers towards cervical cancer screening among female undergraduate students.

Methodology: **A**cross-sectional study of 234 female students conducted at Ebonyi State University Abakaliki Nigeria from March 1st to July 30th 2017. A pretested structured questionnaire was used to collect data on socio-demographic characteristics, knowledge and screening history of cervical cancer, including barriers to screening. We graded knowledge score into good (≥ 50%) and poor (< 50%). We analysed data with Epi info version 7.1.4.

Results: Participants' median age was 21.0 years. The median age of sexual debut was 13.0 years. Overall 130 (77.4%) respondents had poor knowledge of cervical cancer. Major sources of information were health workers 54(32.1%), friends 22 (13.1%) and Television10 (6.0%). One hundred and sixty-eight (72.1%) were aware of cervical cancer, but only 10(16.1%) have had Pap smear test. Common barriers to cervical cancer screening include not knowing the centres where such services are obtainable 84 (52.9%), unnecessary 29(18.6%), no time 26 (16.7%) and fear of discovering cancer 12 (7.7%).

Conclusion Comprehensive education and awareness creation on the importance/benefits of cervical cancer screening to university students, including centres where such services are provided is critical in improving uptake. Thus, leading to early detection and reduction in morbidity and mortality associated with cervical cancer in Nigeria.

Keywords: Cervical cancer; Screening; Knowledge; Human papillomavirus vaccine.

Introduction

Cervical cancer is the fourth commonest cancer in women with about 570000 new cases in 2018 representing 6.6% of all female cancers[1]. About 300,000 women die annually from cervical cancer,

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and approximately 90% of these women live in low- and medium-income countries.[1] It's the most common cause of mortality from gynecologic malignancy. About 60-80% of cases are seen in advanced clinical stage with poor prognosis in developing countries.[2, 3] It is a highly preventable disease with early screening and remains a leading cause of cancer and cancer-related mortality in Sub-Saharan African.[4] The global average incidence of cervical cancer is 15.2/100,000 women, while the sub-Saharan Africa has an incidence of 19.1/100,000 women.[5] Unfortunately in Sub-Sahara Africa where over 80% of new cases of cervical cancer are seen, there is no organized screening program.

In Nigeria, the estimated incidence rate for cervical cancer is 33 cases per 100,000 women.[6] Each year approximately, 10,000 women develop cervical cancer, about 8,000 die from it and is also the commonest genital tract malignancy in the country.[3, 7]Sporadic screening is being carried out in Nigeria using an opportunist method for those who visit certain clinics. Also, there is no standard policy or protocol for cervical cancer screening in Nigeria.[8] It is even more worrisome as all sexually active women are at risk of developing cervical cancer. Equally where the screening services are available, many women seem not to be aware of such services.

The Knowledge and awareness of cervical cancer is low among the women in developing countries.[9] In Ebonyi State the Federal Teaching Hospital Abakaliki offers comprehensive cervical cancer screening services, but the utilisation of such services has been low. Despite massive sensitization of the communities on cervical cancer screening the uptake of Pap smear was 0.6%.[10]

Studies have shown that most cases of cervical cancer in sub-Saharan Africa occur between age 35 and 65 years and it also takes about 10-15 years for pre-invasive lesions to progress to invasive disease.[11] Therefore majority of these patients would have had pre-invasive lesions as early as the age of 20-25 years and many of the female undergraduates fall into this age group.[12] This study therefore assessed the level of knowledge, uptake and barriers towards cervical cancer screening among female undergraduates at Ebonyi State University Abakaliki Nigeria.

Methodology

Study Design

Across-sectional survey of -234 female undergraduate students was conducted at Ebonyi State University CAS campus, Abakaliki Nigeria in 2017.

Study Setting

Ebonyi State is one of five states in the Southeast geopolitical zone of Nigeria created in 1996 with an estimated population of 4.3 million and has a land mass approximated at 5,932 square kilometres.[13] The state has boundaries in the North with Benue State, East with Cross River State, South with Abia State and West with Enugu State. About 75% of the population dwell in rural areas with farming as their major occupation.[13]

The Ebonyi State University Abakaliki is a tertiary institution established in the year 1999. It has four campuses; - the Main College of Agricultural Sciences (CAS), Presco and Isieke campuses with 9 faculties and an Institute of health policy and system development. The CAS campus has 2 faculties; Agriculture/ natural resources management and Law. In 2017, the CAS campus has about 30,000 students studying at different levels with a daily attendance of about 1000 students.

Study population

The study population includes all female undergraduate students at Ebonyi State University CAS campus.

Sample size

The sample size (n=230) was calculated using the following parameter, Prevalence p=7.79%. Alpha =0.05 and d, the precision level= 0.05.

Sampling method

A two-stage sampling technique was used to recruit participants. Two faculties were randomly selected by balloting from four faculties within the University CAS campus. List of female students only in each of the selected faculties was obtained from their respective faculty officers and used as sampling frame for the selection of the participants.

Thereafter, systematic sampling approach was used to select the eligible respondents. Based on average daily attendance of 1000 students per day in the campus, a sampling interval was calculated and used for the selection. We randomly selected the first participant between numbers 1 to 4; thereafter every other fourth eligible participant was selected each until the required sample size was completed. For those who failed to consent on particular clinic days, they were subsequently replaced using the same sampling technique on subsequent clinic days.

Data collection instrument and technique

A pretested structured questionnaire was administered to get information from all eligible participants on cervical cancer. The questionnaire contains sections on demographic characteristics, cervical cancer awareness, specific knowledge uptake and barriers to cervical cancer screening. The awareness section comprised four yes or no questions about whether participants had ever heard of cervical cancer, screening, pap smears and human papillomavirus (HPV). The knowledge section included true or false questions about cervical cancer risk factors and prevention. We compiled knowledge questions into a 12-point *knowledge score*. Correct responses of 'yes' were scored one (= 1) and 'no' responses scored (=0) given a total point score of 12. Based on these responses maximum score per Respondent on knowledge was aggregated and further graded into poor (<50%) and good (≥ 50%).

Data management and analysis

Data collected were cleaned coded and analysed. Descriptive statistics such as frequencies and proportions were generated for categorical variables. The results were presented in tables and charts. We conducted bivariate analysis for associations between independent and dependent variables using chi square test. Epi info (version 7.1.4) was used for data analysis at 5% level of significance and at 95% confidence interval.

Ethical consideration

We got ethical approval for the study from the Ministry of health Ebonyi State. Informed consent was also obtained from all the Respondents before conduct of the study. Ethical standards and best practice such as respect for Persons and their Human Rights, beneficence and Justice were adhered to throughout the conduct of the study.

Results

Two hundred and thirty-four respondents completed the questionnaire with a response rate of 94% and was analysed.

Table 1 Socio demographic characteristics of female undergraduates at Ebonyi state University Nigeria, 2017.

The age of respondents ranged from 15 to 35 years. Their median age was 21.0 years. One hundred and forty-four (61.5%) were between 20-24 years old. Two hundred and seventeen (92.7%) were single while 74 (31.4%) were in 400 level of study. Christians made up 230 (98.3%) and 210 (89.7%) were Igbos by the tribe. The median age of sexual debut was 13.0years.

Table 2 Awareness, sources of information, uptake and knowledge of cervical cancer screening among female undergraduates at Ebonyi state University Nigeria, 2017

One hundred and sixty-eight (72.1%) of the respondents were aware of cervical cancer, 24(10.3%) have heard of HPV vaccination, but only 10 (16.1%) have done Pap smear. The major source of information on cervical cancer screening was health workers 54(32.1%).The respondents' knowledge showed that 22.6% had good knowledge while 77.4% had poor knowledge. Respondents overall mean knowledge score was 3.6±1.6.

Table 3. Barriers to cervical cancer screening among female undergraduates at Ebonyi State University Nigeria, 2017. (n=168)

The main reason cited for not having Pap smear done was lack of awareness of where the test could be done 84(53.9%) while the least was lack of female screeners in the hospital 5 (3.0%).

Only marital status was significantly associated with good knowledge of cervical screening.

Table 1: Socio demographic characteristics of female undergraduates at Ebonyi state University Nigeria, 2017.

Characteristics	Frequency	Percentage (%)
Age (years)		
15-19	55	23.5
20-24	144	61.5
25-29	32	13.7
≥30	3	1.3
Median age(years)	21.0	
Marital status		
Single	217	92.7
Married	16	6.8
Divorced	1	0.4
Religion		
Christianity	230	98.3
Islam	4	1.7
Tribe		
Igbo	210	89.7
Yoruba	16	6.8
others	8	3.4
Level of study		
100	49	20.9
200	50	21.4
300	61	26.1
400	74	31.6
Ever had sexual intercourse		
Yes	70	29.9
No	80	34.3
No response	84	35.8
Age of sexual debut in years .(n=70)		
>19	40	57.1
≤19	30	42.9
Median age (years)	13.0	

Table 2: Awareness, sources of information, uptake and knowledge of cervical cancer screening among female undergraduates at Ebonyi state University Nigeria, 2017

Characteristics	Yes n (%)	Total
Awareness		
Ever heard of Cervical cancer	168(72.1)	234
Ever heard of HPV vaccination	24(10.3)	234
Ever heard of Pap smear	62(26.5)	234
Source of information (n=168)		
Health workers	54(32.1)	168
Friends	22(13.1)	168
Television	10 (6.0)	168
Radio	5(3)	168
Practice		
Have you done Pap smear(n=62)	10(16.1)	62
Good Knowledge	38(22.6%)	168.
Mean knowledge score 3.6±1.6		

Table 3: Barriers to cervical cancer screening among female undergraduates at Ebonyi State University Nigeria, 2017. (n=168)

Characteristics	Frequency	percentage
Do not know where to do the test	84	53.9
It's not necessary	29	18.6
Have no time for screening	26	16.7
Fear of cancer being discovered	12	7.7
Never had sex	16	9.8
Lack of female screeners in the hospital	5	3.0

Discussion

This study carried out among female undergraduate students at Ebonyi State University has provided information on the knowledge, uptake and barriers to cervical cancer screening among young women. In this population, the knowledge of cervical cancer screening and Pap smear uptake were low and lower than the 80% goal set by the WHO. With median age of sexual debut at 13.0years, this population of women are most exposed to the risk factors that predisposes to development of the disease.[14] Although gaps in knowledge about certain risk factors were noted most of the students correctly answered questions about early age of sexual intercourse and multiple sexual partners.

In this study, the female undergraduates have poor knowledge of cervical cancer. This is comparable to previous studies conducted in Nigeria, which showed a poor knowledge of cervical cancer and its risk factors among students.[15, 16] However, the finding is lower than the previous study among health workers in Abakaliki and in Ibadan.[13, 15] The variance is not unconnected with the profession of the respondents in the previous studies, where they are expected to be more knowledgeable than other women in the community.

The median age of the respondents was 21.0 years. Therefore, most of the undergraduates are in their late teens and early twenties. Majority of the respondents were aged 20-24 years (61.5%). This was similar to findings by Arowojolu et al and Ayinde et al. among similar population.[12, 17] This is not surprising as the lower limit for admission into Nigerian universities is 16 years. The study also shows the median age of sexual debut as 13.0 years, which is lower than the national median age of 17.6 years.[14] These finding lend great weight to the

seriousness of the problem of cervical cancer among female undergraduates in Nigeria. Early age of sexual activities predisposes these young girls to human papilloma virus, which could lead to development of cervical cancer.

The finding of this study reported that only 16.1% of the respondents were screened for cervical cancer. This is higher than a previous study in Abakaliki 0.6%, and 8.3% in Ibadan.[10, 17] A study in Australia similarly observed that single women, and those aged less than 30years are at risk of not having knowledge of cervical screening and not utilising it. [18] This high rate of non-utilisation of the test was not surprising as previous studies among female health workers in hospitals where the facilities for the test were available showed similar negative attitude to the test. [10,17]

The most frequent reasons for not having Pap smear were lack of knowledge of centres where the test could be done, not seeing it as necessary, having no time to do it and fear of having cancer being discovered. This finding was similar to the study in Ibadan and Nnewi Nigeria. [19,20] Health education on cervical cancer and where the test could be done appears to have a prominent role to play in increasing awareness and dispelling the negative information the students have against cervical cancer screening. This is important as they have an erroneous belief that they are not prone to cervical cancer or that the test is unnecessary.

On bivariate analysis only those ever married were found to be significantly associated with good knowledge. This could be possible as most reproductive/maternal health messages commonly targets married women in our environment. Also, married women visit the hospital when they are pregnant where they easily get such information. This finding was similar to a study in Ibadan among female undergraduates where married female students had good knowledge compared to those who are single.[19]

This study was among sexually active population that are predisposed to HPV infection. However, it was a cross-sectional study and requires respondents to remember information retrospectively, thus recall bias could be a limitation.

Conclusion

The awareness of cervical cancer screening among female university undergraduates was high, but the uptake of Pap smear test was low. The early age of sexual debut is of great concern as it predisposes this population of females to Human papilloma virus that may eventually led to cervical cancer. Comprehensive education on cervical cancer screening including facilities where such services are available is critical in reducing the morbidity and mortality associated with cervical cancer in the country.

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