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Cervical Cancer Knowledge among Female Undergraduate Students of University of Nigeria, Nsukka

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Abstract

The study examined cervical cancer screening knowledge among female undergraduate students of University of Nigeria, Nsukka. Three research questions and two null hypotheses guided the study. The cross-sectional survey research design was used for the study. The study population consisted of 22,487 female undergraduate students of University of Nigeria, Nsukka (UNN) campus. The sample size was 400 female undergraduates drawn using multi-stage sampling procedure. A self-reported cervical cancer-related questionnaire (CCRK) was used for data collection. The instrument was validated by three experts in the Department of Human Kinetics and Health Education University of Nigeria, Nsukka. Cronbach's Alpha was used to establish the internal consistency reliability of the instrument, which yielded an index of .748. The descriptive statistics of frequency and percentage were used to analyze and answer the research questions, while inferential statistics of; chi-square was used to test the null hypothesis at .05 alpha level. Results revealed that undergraduates of UNN campus had high knowledge of cervical cancer screening. Age was not significantly associated with the level of knowledge of cervical cancer among undergraduates. However, it is important to strengthen health education programmes in schools and enhance health education programmes within educational institutions to ensure comprehensive and up-to-date information about cervical cancer. This information should consistently be provided to students as it will encourage open discussions with undergraduates and also create an environment that fosters open discussions about cervical cancer, reducing any potential stigma or fear associated with the topic. The school authorities should partner with healthcare professionals and organizations to provide guest lectures, workshops, and seminars on cervical cancer and prevention.

Keywords: Cervical cancer, Knowledge, Female undergraduate students

Introduction

Cervical cancer is the most frequent cancer among women worldwide. The mortality rate for cervical cancer is 7.3 per 100,000 women globally. World Health Organization (2021) reported that cervical cancer is the fourth most common cancer among women globally, with an estimated 604,000 new cases and 340,000 deaths in 2020. The mortality rate for cervical cancer is 7.3 per 100,000 women globally, while the morbidity rate is 14.1 per 100,000 women (World Health Organization [WHO], 2021). This disease also has a rapid growth in Africa countries. The mortality rate for cervical cancer in Africa is estimated to be around 12.5 per 100,000 women, which is higher than the global average of 7.3 per 100,000 women (World Health Organization, 2021). Cervical cancer grows rapidly across African countries, and Nigeria has a high mortality and morbidity rate. Cervical cancer is a significant public health concern in Nigeria, where it ranks as the second most common cancer among women (Ogbonna et al., 2019). It is the second principal cause of cancer morbidity and mortality with

an estimated incidence of 14,943 cases and 10, 403 deaths in 2018 (World Health Organization, 2018). The burden placed on women by this disease contributes to the perpetuation of poverty and disruption of the socio-economic fabric of both families and communities (Nwobodo & Maryam, 2017). The incidence and mortality rates of cervical cancer vary globally, with higher rates observed in low- and middle-income countries due to limited access to screening, prevention, and treatment services. In high-income countries, the implementation of organized cervical cancer screening programmes and HPV vaccination has significantly reduced the incidence and mortality of the disease.

Cervical cancer is a type of cancer that develops in the cervix, which is the lower part of the uterus that connects to the vagina. The cancer is primarily caused by the human papillomavirus (HPV), a sexually transmitted infection. Early stages of cervical cancer may not present any symptoms, but as the cancer progresses, women may experience vaginal bleeding, pain during sex, or pelvic pain (National Cancer Institute, 2021). Regular Pap smears and HPV testing can help detect cervical cancer at an early stage, when it is most treatable (American Cancer Society, 2021). Several signs and symptoms of cervical cancer do exist and in most cases women experiencing these symptoms at the early stage, may not actually know what it entails until it is severe and crucial. The first sign and symptom of cervical cancer may take several years to develop. The signs and symptoms of this cervical cancer include: watery and bloody vaginal discharge that may be heavy and can have a foul odour, bleeding in the vaginal after intercourse, menstrual periods may be heavier and last longer than normal. Having this understanding will help develop tailored interventions to address the gaps that might be identified in its knowledge. and awareness (Rachana & Giri, 2019). Finding abnormal cells during cervical screenings is the best way to avoid cervical cancer. Evidence suggests that cervical cancer can be cured if diagnosed at an early stage and treated promptly (WHO, 2014).

Cervical cancer screening is a process of detecting precancerous or cancerous cells in the cervix of a woman who do not have any symptoms of the disease. Regular cervical cancer screening is important because it can detect precancerous changes in the cervix before they become cancerous, allowing for early treatment and management of the disease (American Cancer Society, 2021). The most commonly used screening test for cervical cancer is the Pap smear, which involves collecting cells from the cervix and examining them under a microscope for abnormalities (American Cancer Society, 2021). Cervical cancer screening programmes have been shown to reduce the incidence and mortality of cervical cancer by up to 50 percent (World Health Organization, 2021). The American Cancer Society (2021) recommends that women should begin cervical cancer screening at age 25 years and undergo primary HPV testing every five years through age 65 or individuals should be screened every five years with co-testing (HPV testing combined with cytology) or cytology alone every three years. These acts could enhance the knowledge of cervical cancer screening among students and women in Nigeria.

Knowledge refers to the process of creating, acquiring, organizing, storing, and sharing knowledge within an organization or a community (Alavi & Leidner, 2017). Knowledge about cervical cancer screening methods, risk factors and the warning signs, plays an important and effective role towards developing and employing screening programmes in the schools, which can effectively improve the chances of early detection of cervical cancer in early stages which will result in an improvement in the survival rate and quality of life (Rachana & Giri 2019). Additionally, it is essential to understand the knowledge and acceptability of cervical cancer screening and its associated factors among the female undergraduates, as they are at a high risk of contracting HPV infection. A female undergraduate refers to a woman who is currently pursuing a degree at a tertiary institution

while being enrolled in an undergraduate programme. The knowledge of cervical cancer screening may be influenced by some factors, including age which is the moderating variable in this study. Age is a variable that is associated with cervical cancer knowledge among woman including female University students. In a study by Preston et al. (2018), age was described as a continuous variable representing the time elapsed since an individual's birth, which is crucial for understanding population dynamics and projecting future demographic trends. Age-related changes can impact an individual's social status, support network, and overall life satisfaction. The age of women generally reflect on her overall health promotion behaviours including cervical cancer screening uptake adopted by her. Idowu et al. (2015) reported that age is one of the determinants influencing their cervical cancer screening uptake among female undergraduates of University of Nigeria Nsukka. Typically, undergraduate students can range from 16, 26 years and above. Year of study knowledge and skills acquired by students generally can increase and become more specialized as they progress through their years of study as undergraduates. As female undergraduates advance through their years of study, their knowledge and understanding of a specific subject, such as cervical cancer screening, evolve significantly (Brown, 2018).

Adequate knowledge of cervical cancer could result to regular participation in cervical cancer screening among the females. However, some young women including female undergraduates of UNN will be suffering from this cervical cancer without the knowledge until the disease becomes critical. Though these female undergraduate students of UNN can acquire this knowledge from social media or other places, it appears very little efforts have been made to investigate age as it relates to the knowledge of cervical cancer among female undergraduate students of UNN. However, to the best knowledge of the researchers, little or none has been done using UNN undergraduates. Therefore, it becomes necessary to examine the knowledge of cervical cancer among female undergraduate students of university of Nigeria, Nsukka. Specifically, the study examined cervical cancer screening knowledge among female undergraduate students of University of Nigeria, Nsukka according to age. It was hypothesized that age is not significantly associated with cervical cancer screening knowledge among female undergraduate students of University of Nigeria, Nsukka.

Materials and Methods

Study design

A descriptive cross-sectional survey design was adopted in order to achieve the purpose of the study.

Description of the study area

The study was carried out in University of Nigeria Nsukka, Enugu State among female Undergraduates. The researcher observed that female students in general have wrong assumption and misconception about cervical cancer, hence the need to study the area.

Study population and sample

The population of the study consisted of female undergraduate students of the University of Nigeria, Nsukka. There are 17 faculties and 102 academic departments in UNN, with 22,487 female undergraduate students as at 2022/2023 (Information communication technology University of Nigeria, Nsukka, 2024). Multi-stage sampling procedure was used to draw the sample size for the study. Stage one involved using simple random sampling of balloting without replacement to select five faculties from the 17 facultie. Stage two involved the use of simple random sampling of balloting without replacement to select two departments from

each of the five drawn faculties in stage one. This gave a total number of 10 departments. The third stage involved using convenience sampling to select 40 students from each of the 10 departments drawn in stage two. This gave a total of 400 undergraduate students. Convenience in the sense that only undergraduates who are willing to complete the questionnaire were used for the study.

Data collection tools and procedure

The instrument for data collection was a self-reported Cervical Cancer Knowledge Questionnaire (CCKQ), The CCKQ contained two sections A and B. Section A comprises one item on the demographic characteristics of the respondents, which is age. Section B contained 21 items on the level of knowledge of cervical cancer. The respondents were requested to indicate yes or no on the item statements. The researchers explained the objectives of the research for the participants and the latter was assured about the privacy of their data. After their consent was gotten, female undergraduates were contacted in the University campus for data collection. A total number of 400 copies of the questionnaire were administered, out of which 391 copies were returned, which gave a return rate of 96.1 per cent. A total number of 391 questionnaire properly filled out were used for analysis.

Data analysis

Data were analyzed using frequency and percentage to elicit the information on the level of knowledge of cervical cancer among female undergraduates. Percentages were used to answer the research questions. Knowledge was analyzed as correct or incorrect knowledge. Data from the correct knowledge responses were interpreted thus to obtain the actual level of knowledge: 0-39% were interpreted =Low level of knowledge; 40%-59% were interpreted Moderate level of knowledge; 60%-79% were interpreted High level of knowledge; and 80% and above were interpreted Very high level of knowledge. Chi- square statistics was used to test the null hypothesis at 0.05 level of significance.

Results

Table 1: Knowledge of cervical cancer among female undergraduate of University of Nigeria Nsukka

S/N	Items	Correct f(%)	Incorrect f(%))
1	Cervical cancer affects the woman cervix	343(87.7)	48(12.3)
2	Human Papillomavirus (HPV) is the primary cause of cervical cancer	324(82.9)	67(17.1)
3	Pap smear test is used to detect cervical cancer	328(83.9)	63(16.1)
4	Cervical cancer can be prevented by getting an human papillomavirus (HPV) vaccine	302(77.2)	89(22.. 8)
5	Cervical cancer is only found in women over the age of 50years	213(54.5)	178(445.5)
6	Smoking does not increase the risk of cervical cancer	177(45.3)	214(54.7)

7	Cervical cancer can be cured if detected early	321(82.1)	70(17.9)
8	A positive human papilloma virus test always indicates a cancer diagnosis	135(34.5)	256(65.5)
9	It is better controlled if the vaccine is given to children within the age range of 9 and 12 years	272(69.6)	119(30.4)
10	Treatment for cervical cancer may involve surgery, chemotherapy or radiation therapy	339(86.7)	52(13.3)
11	Cervical cancer is always fatal	181(46.3)	210(53.7)
12	Condoms can completely prevent human papillomavirus (HPV) infection	228(58.3)	163(41.7)
13	Cervical cancer is only caused by promiscuity	219(56.0)	172(44.0)
14	Advanced cervical cancer can spread to other organs, such as the lungs and liver	160(40.1)	231(59.1)
15	Women who has never had sex cannot get cervical cancer	192(49.1)	199(50.9)
16	Human Papillomavirus vaccine is harmful to the body	171(43.7)	220(56.3)
17	Symptoms of cervical cancer in its early stages may include abnormal vaginal bleeding or discharge	153(39.1)	238(60.9)
18	Women over the age of 21yearsneed regular pap test, even if they have had the human Papillomavirus (HPV) vaccine	328(83.9)	63(16.1)
19	Cervical cancer is only transmitted through sexual intercourse	215(55.0)	176(45.0)
20	Women with history of STIs are at higher risk for cervical cancer	321(82.1)	70(17.. 9)
21	Cervical cancer screening is recommended for all women regardless of gender orientation or gender identity	305(78.0)	86(22.0)
	Overall percentage	**76.2**	**23.8**

Key: 0-39%= Low level of knowledge; 40%- 59%= Moderate level of knowledge; 60%-79%= High level of knowledge of; 80% and above= Very high level of knowledge.

Table 1 shows that overall, female undergraduates had high level of knowledge of cervical cancer 76.2%).

Table 2: Knowledge of cervical cancer among female undergraduates of University of Nigeria Nsukka based on Age (n=391)

S/N	Items	16-20 yrs (n= 138) f(%)	21-25yrs (n= 176) f(%))	26yrs+ (n=77) f(%)
1	Cervical cancer affects the woman cervix	120(87.0)	155(88.1)	68(88.3)
2	Human Papillomavirus (HPV) is the primary cause of cervical cancer	115(83.3)	143(81.3)	66(85.7)
3	Pap smear test are used to detect cervical cancer	119(86.2)	144(81.8)	65(84.4)
4	Cervical cancer can be prevented by getting an human papillomavirus (HPV) vaccine	111(80.4)	134(76.1)	57(74.0)
5	Cervical cancer is only found in women over the age of 50	74(53.6)	96(54.5)	43(55.8)
6	Smoking does not increase the risk of cervical cancer	70(50.7)	76(43.2)	31(40.3)
7	Cervical cancer can be cured if detected t early	118(85.5)	148(84.1)	55(71.4)
8	A positive human papilloma virus test always indicates a cancer diagnosis	44(32.9)	66(37.5)	25(32.5)
9	It is better controlled if the vaccine is given to children within the range of 9 and 12 years	96(69.6)	114(64.8)	62(80.5)
10	Treatment for cervical cancer may involve surgery, chemotherapy or radiation therapy	119(86.2)	154(87.5)	66(85.7)
11	Cervical cancer is always fatal	68(49.3)	78(44.3)	35(45.5)
12	Condoms can completely prevent human papillomay (HPV) infection	82(59.4)	102(58.0)	44(57.1)
13	Cervical cancer is only caused by promiscuity	76(55.1)	95(54.0)	48(62.3)
14	Advanced cervical cancer can spread to other organs such as the lungs and liver	56(40.6)	69(39.2)	35(45.5)
15	Women who has never had sex cannot get cervical cancer	71(51.4)	90(51.1)	31(40.3)
16	Human Papillomavirus vaccine is dangerous or harmful	64(46.4)	73(41.5)	34(44.2)
17	Symptoms of cervical cancer in it's early stages may include abnormal vaginal bleeding or discharge	54(39.1)	64(36.4)	35(45.5)
18	Women over the age of 21 should get regular pap test, even if they have had the human Papillomavirus (HPV) vaccine	119(86.2)	143(81.3)	66(85.7)
19	Cervical cancer is only transmitted through sexual intercourse	85(61.6)	95(54.0)	35(45.5)
20	Women with history of STIs are at higher risk for cervical cancer	118(85.5)	140(79.5)	63(81.8)
21	Cervical cancer screening is recommended for all women			

regardless of age and year of study.			
Overall percentage	**81.2**	**73.9**	**72.7**

Table 2 shows that overall, female undergraduates aged16-20 years (81.2%) had very high knowledge of cervical cancer, than those within the age brackets of: 21-25 years (73.9%) and 26 years (72.7%) that had high level of knowledge of cervical cancer.

Table 3: Chi-Square Test of Knowledge of Cervical Cancer Possessed by Female Undergraduate Students based on Age

Variable Age	N	True O(E)	False O(E)	x^2	Df	p-value
16-20 years	138	112(105.2)	26(32.8)			
21-25 years	176	130(134.1)	46(41.9)	2.915	2	.233
26 years+	77	56(58.7)	21(18.3)			

Note. O= Observed frequency; E= Expected frequency; Df=Degree of freedom
*Significant at $p \leq 0.05$

Table 3 shows that age was not significantly associated with the level of knowledge of cervical cancer among female undergraduates ($x^2(2)=.233$,pvalue > 0.05. since the probability (p) value was higher than 0.05 level of significance.

Discussion

Findings of this study in table 1 showed that a good number of of undergraduates of University of Nigeria Nsukka had high level of knowledge of cervical cancer. The finding was not surprising because the researchers envisaged that female undergraduates indicated high level of cervical cancer screening. This finding is expected and not surprising because female undergraduate students having high knowledge of cervical cancer suggests an increased emphasis on health education and awareness over cervical cancer screening in recent years. This is in line with the finding of Ogwuanya 2021 which revealed that female undergraduates have heard of cervical cancer but had poor attitude towards its screening. Universities and educational institutions often provide comprehensive sex education and health programmes that cover various aspects of women's health, including cervical cancer prevention, screening, and early detection. Additionally, with the widespread availability of information through various media channels, young women today are more informed and proactive about their health and well-being. This heightened awareness helps them understand the importance of regular cervical cancer and the potential risks associated with the disease.

Results in Table 2 revealed that female undergraduates within 16-20 years had very high level of knowledge of cervical cancer than those in the other years. This finding is surprising because age has a major influence in the knowledge of cervical cancer screening among female undergraduate students. Age affects their level of knowledge of cervical cancer. This finding is in contrast with that of Allagoa, Agbo, Eguvbe, and Alabrah, (2020) who stated that women's age affects their knowledge of cervical cancer, and that the higher

the age the higher the level of knowledge of cervical cancer they possess. The data in the table also revealed that undergraduates ranging from 16-25 years have high knowledge of cervical. This correlation can be attributed to the increased exposure to health-related information and experiences over time. These insights underscore the importance of targeted educational programsme and awareness campaigns tailored to ensure comprehensive knowledge about cervical cancer for all women. As carried out by Adediji et al. (2023), who examined the knowledge and Attitude Regarding Cervical Cancer Screening among Female Students of Polytechnic, Ibadan, Oyo State. They found that knowledge about cervical cancer significantly increased with the year of study, indicating that students become more informed as they advance in their academic journey. As carried out by Adediji et al. (2023), examined the knowledge and Attitude Regarding Cervical Cancer Screening among female students of Polytechnic, Ibadan, Oyo State. They found that knowledge about cervical cancer significantly increased with the age and year of study, indicating that students become more informed as they advance in their academic journey.

Conclusion

The findings have shown that female undergraduates of UNN, had high knowledge of cervical cancer irrespective of their age and year of study. This likely stems the need to start a health program, from the educational initiatives and accessible information on the subject. It is important to maintain and further enhance the knowledge of cervical cancer among female students as early detection and prevention play a vital role in managing cervical cancer. Therefore efforts in health education and promoting open discussion about the need of cervical cancer screening will contribute to the overall wellbeing of female undergraduates and broader community. However, health educators should design programmes to enhance and expand health education programmes within educational institutions to ensure comprehensive and up-to-date information about cervical cancer screening to university students. There should be open discussion among the students and health educators about cervical cancer screening to encourage students participate actively. Youth friendly Centres should be revamped and supported to utilize technology and social media platforms to share informative content and resources about cervical cancer screening reaching wider audience and promoting awareness. University of Nigeria Nsukka should include reproductive health issues as topics in the general studies curriculum of their institutions to ensure that the students understand the importance of the cervical screening and prevention.

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