Research Article

Perception and Utilization of Cervical Cancer Screening Services among Female Students in Public Tertiary Institutions in Owerri Metropolis, Imo State

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ABSTRACT

Cervical cancer is an important reproductive health problem. In order reduce the incidence of cervical cancer, this study was considered important to ensure that female students develop good understanding of utilization of cervical cancer screening. Some related literatures were reviewed. Objective: This study aimed to determine the perception and utilization of cervical cancer screening among female students in tertiary institutions in Owerri Metropolis, Imo State. A descriptive research design was adopted for the study. Analysis of data was done using the Statistical Package for Social Science (SPSS) version 20.0. The results showed that majority 380(79%) of the students have heard about cervical cancer and 120(32%) reported through health personnel; 200(41.7%) of the students were aware of cervical cancer screening and 160(33%) utilized cervical cancer screening. Though, 50% of them reported they were motivated to go for the cervical cancer screening by doctors. In terms of the factors that affect the utilization of cervical cancer screening; 69.8% said lack of awareness of the test, 10.4% said lack of time, 8.3% said lack of awareness about where to do the test, 4.2% said fear of the result and cost consideration, 2.1% said procedure is cumbersome and only 1% reported not sexually active to go for the test. Then, majority (140) of them between 20-24 years agreed on utilization of cervical cancer screening and pearson chi-square (x2) test showed significant relationship (x2=214.154; df=4 at p<0.001). In conclusion, the findings from this study showed that few numbers of students were aware and able to utilize cervical cancer screening in the study area. Therefore, there is need for female undergraduate students to be educated on the impact of cervical cancer and encouraged to go for screening test for prevention of the disease.

Introduction

Cancer of the cervix is a malignant tumor of the cervix (the lower part of the uterus) and it is a major public health problem throughout the world. Globally, cervical cancer is a major cause of cancer-related morbidity and mortality in women [1]. Cervical cancer is an important reproductive health problem. It is a preventable disease of significant public health concern especially in developing countries like Nigeria. It is the third most common cancer worldwide and the second most common cancer and leading cause of death from cancer among Young girls in developing countries [2]. It continues to be the second commonest female cancer worldwide after breast carcinoma with an estimated 500,000 new cases and 250,000 deaths occur worldwide annually but majority (80%) occurred in developing countries [3].

Among different types of cancer, cervical cancer is regarded as the common cancer-related cause of death among women, and it can be prevented through regular screening programs [4] Cervical carcinoma is still the most common cancer of women on the African continent. Worldwide increase in mortality rate at 50% was mainly because of late presentation, advanced stage of disease and absence of a functioning screening process. The etiological link between human papilloma virus (HPV) infection and cervical cancer has been well established and a number of

high-risk HPV genotypes have been identified. HPV infection is the most common sexually transmitted infection (STI) in the world today up to 80% of sexually active females will harbor HPV at some point in their lives. The majority of women will experience natural elimination of HPV infection because of an intact immune system. Persistent infection with a high risk type HPV puts women at high risk to develop precursors of cervical cancer or carcinoma itself.

Perception, from the context of the study is the organization, identification, and interpretation of sensory information in order to represent and understand the presented information, or the environment [5]. Perception also includes how people respond to the information. People can think that perception is a process where they take in sensory information from their environment and use that information in order to interact with the environment. Perception allows us to take the sensory information in and make it into something meaningful [6]. Perception depends on complex functions of the nervous system, but subjectively seems mostly effortless because this process happens outside conscious awareness [5].

Utilization can be stated as a critical evaluation by health workers of health-care services provided to patients that are made especially for the purpose of controlling costs and monitoring quality of care. Then, cancer screening aims to detect cancer before symptoms appear. This may involve blood tests, urine tests; DNA tests other tests, or medical imaging [7]. It may involve mass screening or population screening (screening everyone, usually within a specific age group). The benefits of screening in terms of cancer prevention, early detection and subsequent treatment must be weighed against any harm.

In developed countries, it is estimated that more than half of women found to have cervical cancer have a history of no screening or infrequent screening [8]. In Canada, Ontario Cervical Screening Program, [9], stated that women tend to have a low level of education, to live in poverty, to be newcomers to the country, to be over 50 years of age. Globally, Parkin, Bray and Ferlay [10], underserved and lower socioeconomic status of populations bears the greatest burden of cervical cancer. African-American women are 50% more likely to be diagnosed with cervical cancer and twice as likely to die from the disease as Caucasian women [2].

In addition, cervical cancer incidence and mortality for Hispanic women is higher than for non-Hispanic women in the USA [11]. Although cervical cancer is largely preventable through regular Pap smear screening, [12] also known as Working Group on the Evaluation of Cancer-Preventive Strategies stated that more than half of women diagnosed with cervical cancer have had no screening [13]. One way to increase screening for the risk of cervical cancer among women who seldom or never get pap tests is to offer self-collection tests to test HPV by women at home and return to laboratory. A self-collection test, or self-test, collects HPV DNA using a device such as a vaginal swab, cytobrush, or vaginal lavage.

There are many reasons why women in both developing and developed countries do not participate in cervical screening, such as lack of access to a health care provider, discomfort with physical examination, cultural and religious, or personal values that prohibit examination by a male physician. HPV DNA testing has the potential to reach under-screened populations with self-sampling methods.

Self-sampling has proved to be reliable in screening for sexually transmitted diseases in hard-to-reach populations; for example, self-administered tampons were shown to be both an acceptable and a sensitive method for detecting sexually transmitted diseases in women living in remote regions of Australia [14]. Self-collected vaginal swabs produced reliable results and were acceptable to women in Southern Asia for the detection of reproductive tract infections [15]. It is clear that more information on self-sampling for HPV DNA testing is needed. In theory, self-sampling has the potential to improve screening and follow-up rates in women who are never or seldom (>3 years between tests) screened by clinicians, thereby contributing to reduced mortality and morbidity from cervical cancer. Since the majority of women do experience natural elimination of HPV infection because of an intact immune system. Therefore, persistent infection of HPV puts women at high risk to develop precursors of cervical cancer or carcinoma itself and the idea of this study were adopted.

Methods and Materials

The research design employed in this study was a descriptive study to describe the perception and utilization of cervical cancer screening services and socio-demographic factors influencing the utilization of cervical cancer screening services in tertiary institution in Owerri metropolis. The study was carried out at selected institutions such as State University (IMSU) and Alvan Ikoku Federal College of Education (ALVAN); both are located in Owerri Metropolis, Imo State, Nigeria. The sampling technique used in this study was multistage sampling technique. In IMSU, the students were first stratified according to their faculties or schools and the same process was applied in ALVAN. In each of the schools, a simple bal-

loting was used to select three (3) faculties; in IMSU, the selected ones were sciences, health sciences and education while in ALVAN, the selected ones were agriculture, social sciences and general studies.

Data were collected using a self-administered questionnaire. A total of 576 copies of the questionnaire were administered to the respondents but 480(83.3%) were completely filled and returned. This was because some of the students could not return the forms given to them and some were wrongly filled. Data were collected through the administration of the research instrument to female students in tertiary institutions (IMSU and ALVAN) in Owerri Metropolis.

Analysis of data was done using Statistical Package for Social Sciences (SPSS) version 20.0 and results were presented with frequency, percentages and tables to determine the perception and utilization of cervical cancer screening in the study area. Graphical illustrations were done using pie chart and bar chart to show remarkable observation. The chi-square test was used to establish a relationship between the independent and dependent variables at p-value of 0.05.

Results

The result in Table 1 presented socio-demographic data of the participants; where their ages were as follows: 60(12.5%) were less than 20 years, 260(54.2%) were between 20-24 years, 120 (25%) were between 25-29 years, 30(6.3%) were between 30-34 years and 10(2.1%) were 35 years and above. On the same table, the highest percentages 360(75%) of the participants were single followed by married ones with 108(22.5%) and 12(2.5%) were separated women. Majority 170(35.4%) of students were in 300 level followed by 200 level with 154(32.1%), 400 level had 79(16.5%) and 100 level recorded 77(16%). Also, highest percentages (97.9%) of the students were Christians, 1.4% was for Islam and 0.7% was for traditional worshipers. On monthly income allowance of the students, highest response 204(42.5%) were on those reported between ₦11,000-N20,000; greater than ₦ 20,000 has 170(35.4%), between ₦5,000-N10,000 recorded 86(17.9%) and least was less than or equal to ₦5,000 with 20(4.2%) respondents.

Table 2. Perception of Female Students on Cervical Cancer

Variables	Frequency	Percentage
Age group of the participants		
Less than 20 yrs	60	12.5
20-24 yrs	260	54.2
25-29 yrs	120	25
30-34 yrs	30	6.3
35 yrs and above	10	2.1
Total	480	100
Marital status of the participants		
Single	360	75
Married	108	22.5
Divorced	0	0
Widowed	0	0
Separated	12	2.5
Total	480	100
Level of study of the participants		
100 level	77	16
200 level	154	32.1
300 level	170	35.4
400 level	79	16.5
Total	480	100
Religion of the participants		
Christianity	470	97.9
Islam	7	1.4
Traditional	3	0.7
Total	480	100
Monthly income allowance of the students		
Less than equal to ₦5,000	20	4.2
₦5,000 – N10,000	86	17.9
₦11,000 – N20,000	204	42.5
Greater than ₦ 20,000	170	35.4
Total	480	100

The result in Table 2 below presents the perception of female students on cervical cancer screening. Majority 380(79%) of the students said yes they have heard about cervical cancer while 100(21%) said no and the source(s) of information were reported as follows; through friends/relatives 50(13.2%), health personnel 120(32%), printed media (postal, hand bill) 75(19.7%) and 135(35.5%) said through electronic media (radio, TV).

Again, 370(77%) agreed that cancer of the cervix is the commonest cancer of the female reproductive tract; 100(20.8%) feel that STI (HPV, HIV etc) is the

primary cause in development of cervical cancer screening. Most of the students think that development rate of cervical cancer is high among sexually active female with 390(81.3%) while non-sexually active female were 90(18.8%). Those of the view that cervical cancer screening is necessary for STI prevention purposes; 340(70.8%) supported the idea, 320(67%) said they only feel that screening can help in preventing cervical cancer. Also, 390(81.3%) said they are willing to attend cervical cancer screening if it is free, available and harmless to their health and 90(18.7%) said no to that idea.

Statements	Participants' Responses	
Heard about cervical cancer	Yes	380(79%)
	No	100(21%)
	Total`	480(100%)
If yes, source(s) of information	Friends/relatives	50(13.2%)
	Health personnel	120(32%)
	Printed media (postal, hand bill)	75(19.7%)
	Electronics media (radio, TV)	135(35.5%)
	Total	380(100%)
Agreed that cancer of the cervix is the commonest cancer of the female reproductive tract	Yes	370(77%)
	No	110(23%)
	Total	480(100%)
Feel that STI (HPV, HIV etc) is the primary cause in development of cervical cancer	Yes	100(20.8%)
	No	380(79.2%)
	Total	400(100%)
Age that is most affected by cervical cancer	Below 30 years	45(9.4%)
	30-39 years	280(58.3%)
	40-49 years	100(20.8%)
	50 years and Above	55(11.5%)
	Total	480(100%)

Those who think that development rate of cervical cancer is high among which people	Sexually active female	390(81.3%)
	Non sexually active female	90(18.8%)
	Virgin	0
	Total	480(100%)
Those that think that cervical cancer screening is necessary for prevention purposes	Yes	340(70.8%)
	No	140(29.2%)
	Total	480(100%)
Feel that screening can help in preventing cervical cancer	Yes	320(67%)
	No	140(33%)
	Total	480(100%)
Willing to attend cervical cancer screening if it is free, available and harmless	Yes	390(81.3%)
	No	90(18.7%)

The result in Table 3 showed the level of female utilization of cervical cancer screening; out of 480 female students participants; 200(41.7%) said they were aware of cervical cancer screening and 160(33%) utilized cervical cancer screening. Majority 100(50%) reported they were motivated to go for the cervical cancer screening, 20(10%) said friends/relatives motivated them because of symptoms, 30(15%) said they were motivated through advert from printed media (postal, hand bill) and 50(25%) said because of advert from electronics media to check health status. Also, 120(60%) out of 200 that reported they went for screening said that doctors were the medical personnel that did the screening, 70(35%) said Medical Lab Scientist do carry out the test and only 10(5%) reported Nursing Officer.

Table 3. Level of utilization of cervical cancer screening among female students

Statements	Participants' Responses	
Aware of cervical cancer screening	Yes	200(41.7%)
	No	280(58.3%)
	Total	480(100%)

Utilized cervical cancer screening	Yes	160(33%)
	No	320(67%)
	Total	480(100%)
If yes, who/ what motivated you to go for the cervical cancer screening?	Friends/relatives because of symptoms	20(10%)
	Health personnel	100(50%)
	Advert from printed media (postal, hand bill)	30(15%)
	Advert from electronics media to check health status	50(25%)
	Total	200(100%)
Cadre of medical personnel that did the screening	Nursing Officer	10(5%)
	Doctors	120(60%)
	Medical Lab Scientist	70(35%)
	Total	200(%)
Do you utilize cervical cancer screening services for cervical cancer prevention?	Yes	180(37.5%)
	No	300(62.5%)
	Total	480(100%)
If yes, for how long did you use the screening services?	1 year	100(55.5%)
	2 years	30(16.6%)
	3 years	25(13.8%)
	More than 3 years	25(13.8%)
	Total	180(100%)
Have been advised to go for cervical cancer screening by peers?	Yes	140(29.2%)
	No	340(70.8%)
	Total	480(100%)
If yes, what happened to the advice?	Agreed	40(28.6%)
	Disagreed	20(14.3%)
	Still considering it	80(57.1%)
	Total	140(100%)

Furthermore, 180(37.5%) utilized cervical cancer screening for prevention purposes and 100(55.5%) out of 180 that utilized cervical cancer screening reported they did cervical cancer screening 1 year ago followed by those that reported 2 years with 30(16.6%) and 25(13.8%) said 3 years and above they went for cervical cancer screening. The students were interviewed on motivation for cancer screening; 140(29.2%) said they were been advised to go for cervical cancer screening by peers and 40(28.6%) said they agreed, 80(57.1%) said they were considering it while only 20(14.3%) disagreed to the advice.

The result in Figure 1 presented the reason for not going for cervical cancer screening; 335(69.8%) said lack of awareness of the test, 50(10%) said lack of time, 40(8.3%) said lack of awareness about where to do the test, 20(4.2%) said fear of the result and cost consideration, 10(2.1%) said the procedure is cumbersome while 5(1%) said they are not sexually active to go for such screening.
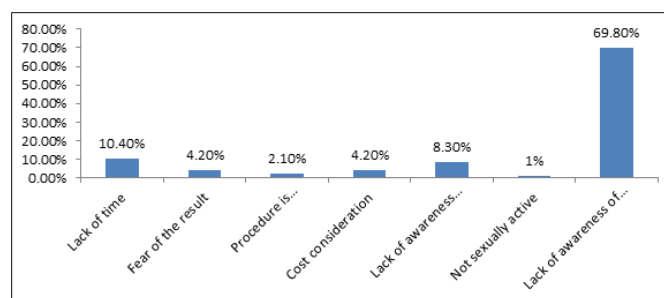

Figure 1. Reasons for not going for cervical cancer screening

The result in Figure 2 presented the respondents idea in utilization of cervical cancer screening; 260(54.2%) said it is good for early cancer detection, 160(33.3%) said it is good for cancer prevention, 40(8.3%) said it was good for only sexually active women and 20(4.2%) said it was not good for young female students.
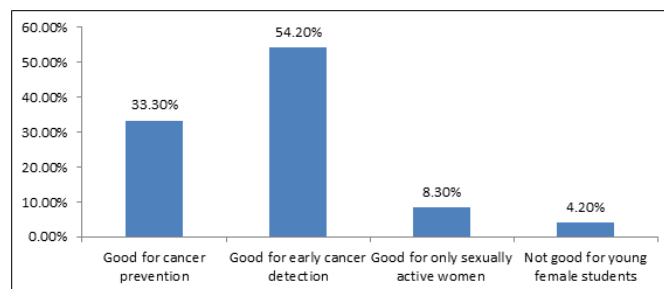

Figure 2. Respondents' idea in utilization of cervical cancer screening

The result in Table 4 showed relationship between age group of the participants and utilization of cervical cancer screening services; majority (140) between 20-24 years agreed on utilization of cervical cancer screening and Pearson Chi-Square (X2) test showed significant relationship (X2=214.154; df=4 at

P<0.001).

Table 4. Influence of age group of the participants on the utilization of cervical cancer screening Services

Age group of the participants		Utilization of cervical cancer screening Services		Total
		Yes	No	
Age group of the participants	Less than 20 yrs	60	0	60
	20-24 yrs	140	120	260
	25-29 yrs	0	120	120
	30-34 yrs	0	30	30
	35 yrs and above	0	10	10
Total		200	280	480
Pearson Chi-Square=214.154 ; Df=4; P<0.001				

The result in Table 5 showed relationship between level of study of the participants and utilization of cervical cancer screening services; majority (140) of them from 200 level agreed on utilization of cervical cancer screening and Pearson Chi-Square (X2) test showed significant relationship (X2=375.6; df=3 at P<0.001).

Table 5. Influence of Level of study on the utilization of cervical cancer screening Services

Level of study of the participants		Utilization of cervical cancer screening Services		Total
		Yes	No	
Level of study of the participants	100 level	60	0	60
	200 level	140	31	171
	300 level	0	170	170
	400 level	0	79	79
Total		200	280	480
Pearson Chi-Square=375.6; Df=3; P<0.001				

The result in Table 6 showed relationship between monthly income allowance of the students and utilization of cervical cancer screening services; majority (94) of them that earn between ₦11,000 – N20,000 reported that financial strength has influence on utilization of cervical cancer screening and Pearson Chi-Square (X2) test showed significant relationship (X2=271.5; df=3 at P<0.001).

Table 6. Influence of monthly income allowance of the students on the utilization of cervical cancer screening Services

Monthly income allowance of the students		Utilize cervical cancer screening		Total
		Yes	No	
Income	Less than ₦5,000	20	0	20
	₦5,000 – N10,000	86	0	86
	₦11,000 – N20,000	94	110	204
	Greater than ₦ 20,000	0	170	170
Total		200	280	480
Pearson Chi-Square=271.5; Df=3; P<0.001				

Discussion

The findings from this study titled perception and utilization of cervical cancer screening services among female students in tertiary institutions in Owerri metropolis, Imo state showed that majority (79%) of the students have heard about cervical cancer and were aware of cervical cancer screening. The female students 'perception of cervical cancer screening was relatively acceptable because some of them were aware of the importance of utilizing cervical screening and cervical cancer prevention and the finding at 33% was similar or the same to the result reported in India by Udigwe [16] on women perception of cervical cancer screening. Other studies reported lower awareness of cervical cancer among female civil servants [17] and among market women in [18].

In a study carried by Wright et al., [18], awareness of a disease condition often leads to reducing its morbidity and probably mortality. For example, the incidence of cervical cancer in high-economy countries has decreased due to high level of awareness, screening, early detection and treatment. However, in low-economy countries like Nigeria, lack of awareness and lack

of motivation of female students to go for cervical cancer screening as observed in this study can lead to advanced stage of cervical cancer.

These findings agree with the study conducted by Obaseki and Nwafor, [19] on prospective study involving all females that came for cervical cancer screening performed in Igbinedion University Teaching Hospital (IUTH) between August 2015 to July 2012 which revealed that a high number of women turned out for screening which indicates a heightened awareness of cervical cancer.

The result showed that few numbers of the students (33%) utilized cervical cancer screening which could be due to the help of health personnel in the study area through health education on cervical cancer screening.

These findings agree with the study carried out by Aniebue and Uzochukwu, [20] on knowledge and utilization of cervical cancer screening, among female undergraduates in a University in Nigerian. It was revealed that utilization of cervical cancer screening was still very low amongst female university Staff. The commonest reasons for never being screened include; ignorance of the existence of screening services, lack of doctor's recommendation practice, for women to be using health services they need to be empowered with adequate information on cervical cancer screening so that they can have a clear understanding of the service and its benefits so that they can freely utilize the service without waiting for the doctor's recommendation [20].

Consequently, screening for pre-invasive and early invasive lesions of the cervix is a priority. Then, only proven strategy for the prevention of cervical cancer is cytological screening using Pap smear with appropriate treatment and follow-up. When looking into the level of perception and awareness of students on utilization of cervical cancer screening, this present study shows a good (79%) level of perception and awareness level of 33% of cervical cancer obtained in the study findings which was not too close to the findings of the study carried out by Hyacinth, [17] who obtained 99% among nurses in the Northern part of Nigeria. This high rate of cervical cancer screening among nurses could be attributed to being aware and knowledgeable of the benefits of cervical cancer screening.

Kishore et al [21], described the young age (15-24 years) of people as one of the active age group to target for behavior change in a society. And the age that has highest response in this study was between 20-24 years which was in line with Kishore et al., [21], they were of the opinion that early detection of the cancer

can lead to complete treatment by ablative or excision methods of surgery, but if left untreated, a significant number of these may persist and progress to invasive cancer.

Formal lecture and seminars from health personnel were the major sources of information for many of the students to develop good perception about cervical cancer screening. Based on information, Wright et al., [17], opined that it was good enough to substantiate the report that showed a good association between level of study, age financial and cervical cancer utilization.

According to Wright et al., [17], it is a thing of concern that information about cervical cancer screening through internet to update and improve knowledge were by few, indicating low internet consumption, time constrain due to work and poor internet facility services in that part of the country but it can only be achieved to an extent through printed media (postal, hand bill) and electronics media to check health status. Other factors that may mitigate against the utilization of cervical cancer screening through the use of internet are inability to purchase a laptop, poor access to institution information center that is overcrowded by other students, irregular power supply and inability to procure an electricity generating set.

The influence of financial strength of female students determines the level of utilization of cervical cancer screening. Following some previous studies that suggested that utilization of cervical cancer screening was not high for most women in the developing countries due to peculiar socio-economic characteristics including poverty and illiteracy (which reduce the power of women). Others are high parity and poor utilization of screening facilities [22,23].

The findings are particularly problematic because of high incidence of cervical cancer and low utilization cervical cancer screening rates in many of the developing countries in which Nigeria women are involved. Most studies in Nigeria and beyond indicated that women with the lowest income level have the lowest screening rates [21] and it was not far from the findings of this study where higher responses were among those that has income of above ₦11, 000, and these inequities may not persist after lectures and training of health workers at all levels to create awareness and change perception of female on utilization of cervical cancer screening.

Conclusion

Based on the findings of this study, it was observed that (41.7%) of students was aware of cervical cancer screening and 33% of them were able to utilize cervical cancer screening in the study area. The re-

sult showed that factors such as, lack of time, lack of awareness about where to do the test, lack of awareness of cervical cancer cases, fear of test result, procedure is cumbersome, cost consideration and not sexually active were highly influenced the rate of cervical cancer utilization. And most of them have a good knowledge of cervical cancer screening. Therefore, utilization of cervical cancer screening was significantly associated with age, level of study and financial strength of the female students. Also, female undergraduate students should be educated on the impact of cervical cancer and encouraged to go for screening test for prevention of the disease.

Acknowledgments

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