Female undergraduates' knowledge about cervical carcinoma and awareness of risk factors and screening in south-western Nigeria

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Original Article

ABSTRACT

Objectives: Cervical carcinoma is among the commonest female cancers with an incidence globally of about half a million new cases annually. It is a preventable disease but many young women are not well informed about the risk factors contributing to its development and worse still did not understand how to detect it early. This was to study the knowledge of female undergraduates about cervical carcinoma, its risk factors and their awareness of the Pap smear screening method.

Methods: A cross-sectional study of 494 female university students who were selected randomly from undergraduates was carried out in Osun State. Semi structured questionnaires were self- administered to collect information. Data was analyzed using the SPSS version 17.0 software and the level of significance was $P < 0.05$.

Results: Thirty nine percent of the students were less than 20 years of age. Over 35% of the total number was sexually active with about 68% of these having more than 1 sexual partner. About 42% of the respondents have heard about cervical carcinoma while 48% of the subpopulation was aware that HPV infection was a risk factor and only 1.6% had done the Pap smear. About 28% knew that cervical cancer was preventable.

Conclusion: There was low awareness about cervical carcinoma, its risk factors and the Pap smear screening despite the presence of risky sexual habits among female undergraduates. There is a need for increased awareness campaign on risk factors and sensitization of women on regular Pap smear screening.

Keywords: Cervical carcinoma, risk factors, Pap smear.

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La connaissance des étudiantes tertiaires à propos de carcinoma cervical et la sensibilisation des facteurs de risqué et le dépistage dans le de cadre sud-ouest du Nigeria

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Article Original

RÉSUMÉ

Objectif: Le carcinome cervical est parmi les plus courants cancers féminins avec l'incidence à l'échelle mondiale d'environ un démi- million de nouveaux cas par an. Ceci est une maladie évitable, mais beaucoup de jeunes femmes ne sont bien informées sur les facteurs de risqué contribuant à son développement et pire, elles ne comprennent pas comment détecter tôt. Cette étude a signalé la connaissance de carcinome cervical par les étudiantes, des facteurs de risqué et leurs sensibilisation de la method de test PAP.

Méthode: Une étude transversale de 494 étudiantes universitaires qui ont été sélectionnées au hazard parmi les étudiantes était exécutée dans l'état d'osun. Les questionnaires semi – structurés ont été auto – administrés pour recueillir des informations, les données recueilliés ont été analysés en employant la version du logiciel SPSS 17.0 et la nouveau de signification était P < 0.05.

Résultat: 39% des étudiantes étaient moins de 20 ans Plus de 35% sur le nombre total était active sexuellement avec environ 68% ayant plus de partenaire sexuel, environ 42% des répondants ont entendu parler de carcinome cervical alors que 48% de la sub-population était au courant que l'infection par le VPH est un les facteurs de risqué et seulement 1.6% avait fait le test PAP. Environ 28% était au courant que le cancer du col utérin était évitable.

Conclusion: Faible sensibilisation à propos le carcinomie cervical, ses facteurs de risqué el la méthode de test PAP malgré la présence d' habitudes sexuelles à risqué chez les étudiantes universitaires. Nécessite d'accroitre an niveau de la sensibilisation sur les facteurs de risqué et la sensibilisation des femmes sur le dépistage du PAP régulier.

Mots Clés: Carcinome cervical, los facteurs de risqué, methode de test PAP.

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.**INTRODUCTION**

All over the world cervical cancer is the commonest female genital cancer and cause of female death (1). Annually more than 75% of cervical carcinoma morbidities and the mortalities resulting from it worldwide occur in the developing countries with mortality rates of about 2 in 100,000 women in the developed countries in Western Europe to 26.7 in 100,000 women in East Africa (1). Nigeria records 25,000 new cases every year (2). Cancer of the cervix is a female genital tract cancer that arises from infection with the Human Papilloma Virus (HPV) commonly serotypes 16&18 (3, 4). With this infection, there is an initial transformation of the cervical epithelial cells to precancerous lesions and later on to frank cancer (5, 6 and 7).

Cervical cancer affects not only the health and lives of the women suffering from it, but also their children, families and their communities in general. Genital HPV infections, a risk factor are highly prevalent among sexually active men and women globally (8). Women are infected with HPV in their teens and 20s, but cancer of the cervix may take up to 20 years to develop after the initial exposure to HPV infection. Other risks are low educational status, oral contraceptive use, cigarette smoking, dietary factor, parity, sedentary lifestyle and sexual behaviors. (9). Many of these risk factors can be found among female undergraduates worldwide especially in countries with low socio-economic status.

High risk – HPV prevalence at all ages has been reported, but not all, population-based studies conducted in sub-Saharan Africa including West Africa have documented this (10).

A study showed that birth control use and age at first pregnancy were associated with high risk – HPV (11). Risky sexual behaviors, a lack of knowledge of cervical carcinoma and the preventive care such as a regular Pap smear lead to a high incidence of HPV infection in college women that may develop into cervical cancer. In a study in Northern Nigeria (12), cervical cancer and Pap smear awareness were just50.9% and 38.6% respectively, with the media as the major source of information. Pap smear utilization rate was 10.2%, with routine antenatal care (ANC) as the major opportunity for getting screened.

In this study the authors evaluated the knowledge of female university students on cervical carcinoma and their awareness of its risk factors and screening method. The study was carried out among female undergraduates because most of them were unmarried, and as potential mothers have the future ahead of them. Any factor that adversely affects them will affect the family and the community at large.

MATERIALS AND METHODS
Study Area: Osogbo is the capital of Osun state with a population of 156,694 people according to the 2006 Population and Housing Commission (13). Youths, aged 16 years and above constitute the target population because this is about the age many people gain admissions to institutions of higher learning. Osogbo is a commercial city having three tertiary institutions at University level namely the Osun state University (UNIOSUN), Ladoke Akintola University of Technology (LAUTECH) College ofHealth Sciences and Fountain University. Osun State University has only the main campus (with only two Colleges) in Osogbo while others are outside the city. LAUTECH has only the College of Health Sciences in Osogbo city. Fountain University, though a private University unlike the other two has all her campuses in Osogbo city.

Study design: This study was a descriptive cross sectional study on the knowledge about

cancer of the cervix, its risk factors and screening method among female University undergraduates in south western Nigeria.

Study population: Consists of registered female students of these Universities with age 16 years and above.

Sample size estimation: Leslie Fischer's formula (14), for the calculation of sample size for a population less than 10,000 was employed and a sample size of 459 was obtained. This was approximated to 500 to accommodate possible attrition from the study; however 494 respondents participated in the research.

Sampling method: A multi stage sampling technique was applied to recruit participants into the study.

Research instruments: Semi-structured questionnaires were self administered. These underwent pre-testing among university students in Ile Ife in Osun State. Study variables included socio- demographic data, knowledge about cancer of the cervix, risk factors for its development and awareness of the screening method among others.

Ethical clearance: Ethical clearance was obtained from UNIOSUN College of Health Sciences Ethical Review Committee; permissions were obtained from the selected departments and the respondents who took part in the study. An informed consent was obtained from each participant. Assurances were given concerning the confidentiality of information from the participants.

Data management: The SPSS software version 17.0 was used for data entry and analysis. Validity of data was done by double entry and random checks for errors and outrageous values. Relevant frequency distributions tables and summary indices were generated. The Chi-square test was used to demonstrate relationships between

categorical variables. Regression model was used for multivariate analysis of quantitative variables while level of statistical significance was set at P- values _0.05 in determination of relationships between categorical variables

RESULTS

Four hundred and ninety four (494) female university undergraduates eventually submitted complete usable questionnaires; hence a response rate of 98.8% was gotten. About 39% of the respondents were less than 20 years old, while less than 2% were 30 years and above.

Majority of the students (43.3%) were in 200 levels of their various courses of study. Eight students (1.6%) were married, about 74% were Christians and 21% were Muslims as shown in Table 1.

Table 2 illustrated the sexual behaviours of the students. More than a third of them (37.7%) was sexually active and about 4% of this sub-group began having sex before the age of 15 years. More than 68% of the sexually active population had more than one sexual partner and about 35% of them did not use condom at the last sexual exposure.

Table 3 reported the number of students who were aware of a disease entity called cervical carcinoma with their sources of information. Forty two percent of the students have heard about carcinoma of the cervix. The majority of this subpopulation (32.7%) having their sources of information from the mass media, 16.3% knew from the internet, 15.4% - from health workers, 8.7% - from attending sensitizing workshops and 3.8% - by reading relevant literature. The last 3 subgroups had the knowledge of the preventive nature of cervical cancer. More than 53% of those who have heard about carcinoma of the cervix knew that having multiple sexual partners was a risk factor, just as 48% knew HPV infection to be a risk factor and about 36% adduced early sexual

exposure as a risk of development of carcinoma of the cervix. Pap smear was known to be a screening method by 21% of the 208 respondents who were aware of cervical carcinoma, while less than 4% had actually done it. The majority (69%) of those who had not done Pap smear were ignorant of steps involved while 7% did not know where to get it done.

From the statistical analyses in Tables 4–6, there was no significant difference between most of the studied characteristics of the respondents and their knowledge of cervical carcinoma, P >0.05. However, information on STIs and HPV significantly correlated with the knowledge about cervical cancer, P values between 0.011 and 0.001 respectively. In the same vein only the respondents who have heard about HPV infection were more likely to know about the pap smear screening method, P=0.001. Also, students that used contraceptives were more likely to start sexual activities early, P – value – 0.023.

DISCUSSION

In the study, over 37% of the respondents were sexually active while only about a third used condom at their last sexual exposure implying that majority engaged in unprotected sex. This figure is much lower when compared to similar Nigerian studies in eastern Nigeria (15), and Ibadan (16). Overall, Nigerian figures were all higher than a figure from a Ghanaian College where only around 20% were sexually active (17). These differences may be accounted for by the different levels of urbanization and the population factors of the towns considered. Thus, high risk sexual behaviours existing among students of higher institutions under study, calls for involvement of parents and guardians in the sex education of their wards.

Early sexual activity, multiple sexual exposure and non use of condoms as reported in the study are known risk factors for cancer of the cervix. Apart from the risk of cancer, there could be exposure to sexually transmitted infections (HIV), unintended pregnancies, unsafe abortions and their complications. Vocational activities may be organized to engage the youths positively.

Close to half of the respondents have heard about cervical carcinoma, this was lower when viewed against the study from Ibadan that reported 71% (16). This may also be due to the effect of urbanization. Despite the ready and easy access of undergraduates in Nigeria to the internet, only about one third of them reported the internet as the source of their awareness about cancer of the cervix. This is an indication that the Students did not avail themselves of the opportunity provided by this technology to get useful information of serious health concern. The health workers, workshops and relevant books were the additional sources of information about the preventive nature of cervical cancer. This creates the worry about the accuracy of the information sought from the internet and the mass media. Some sites on the internet put disclaimers at the bottom of their articles to absorb themselves of litigations. It is important to know the reliability of every piece of information gotten from all sources.

Also, a significant few of our respondents knew someone who had died from cancer of the cervix, and more than half being aware of multiple sexual partners as a risk factor. This awareness may not translate into preventive practices among the respondent by virtue of their risky sexual behaviours. Many people in the society at large including students often go about with the notion that they would never be afflicted by such conditions instead of taking practical preventive measures.

The knowledge of our study population about the risk factors for the development of cervical carcinoma was generally found to be low. Inadequate awareness campaign by relevant

stakeholders may be a factor responsible for this. In addition, sexuality education which hitherto was being given in secondary schools may not usually continue at higher institution level where students were regarded as independent and matured. The various media should work together to bridge the gap.

The poor awareness and utilization of Pap smear as a screening test for cancer of the cervix as reported in this work supports findings from other studies (15,16). In one related study, though awareness was reported to be high, the utilization of Pap smear was similarly poor (18). Several other studies locally have also shown generally low uptake of the screening test (19, 20). The reported reasons for the failure to do the Papsmear test included ignorance, not considering it necessary, lack of interest, lack of knowledge about its existence and where it could be done. It is clear that young people are not well informed on matters affecting their reproductive health. There is the need to properly educate and re-orientate women especially students who are still in the early stage of their reproductive carrier on the risk factors that promote the development of carcinoma of the cervix and to encourage them on positive attitudinal change so as to increase the population that utilizes the screening test. Regular programmes need to be organized by relevant stakeholders including university health services to let people know the usefulness of the Pap smear in screening of patients, and making the services available and accessible particularly the newer simpler methods.

This study however is limited by certain factors which were not considered in the course of the work. Some of these factors are known to influence or modify the behavioural dispositions of people. They include the family background of the students which has a very significant influence on the moral conduct of any individual, the peer pressure especially those

that are leaving their parents for the first time and poverty because financial gratification may be a reason why some female students go into illicit relationship with the opposite sex not minding the consequences in the immediate period or later in life. There is the need in future studies to evaluate the cause and effect relationships of some of these factors.

CONCLUSION

Awareness of cervical carcinoma, its associated risk factors and Paps smear test as a screening tool among study respondents was low, while Paps smear utilization was even much lower, despite a high pattern of risky sexual behaviours. Stakeholders in youth reproductive health including university health services should create better awareness about cancer of the cervix as well as make Paps smear screening services available to this category of the populace. Also susceptible youths should be encouraged to undergo regular screening exercises.

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Table 1: Some so cio-demographic characteristics of the respondents

Characteristics (n= 494)	Frequency	Percentage
Age in years		
15 – 19	193	39.1
20 – 24	238	48.2
25 – 29	54	10.9
30 and above	9	1.8
Level of study		
100	47	9.6
200	214	43.3
300	162	32.8
400	71	14.4
Marital status		
Married	8	1.6
Single	486	98.4
Religion		
Christianity	368	74.5
Islam	105	21.3
Traditional	14	2.8
Others	7	1.4

Table 2: Sexual behaviours of some of the respondents

Sexual behaviour	Frequency	Percentage
Number of sexually active students (n= 494)	186	37.7
Commencement of sex before age 15years (n= 186)	8	4.3
Commencement of sex at age 15years and above (n= 186)	178	95.7
Multiple sexual partners (n= 186)	128	68.8
Condom use at last sexual exposure (n= 186)	66	35.5

Table 3: Knowledge of cervical cancer, risk factors and Pap smear screening by the respondents

Characteristics	Frequency	Percentage
Students who heard about cervical cancer(n= 494)	208	42.1
Heard through the mass media (n= 208)	68	32.7
Knew through internet	34	16.3
Heard from health workers*	32	15.4
Heard at workshops*	18	8.7
Read relevant literatures*	8	3.8
Heard from victims	4	1.9
Others	44	20.9
Knew victims who died as a result of cervical cancer	34	16.3
Risk factors for cervical cancer(multiple responses)		
Multiple sexual partners	111	53.4
Early sexual exposure	76	36.5
Smoking of cigarette	89	42.8
HPV infection	100	48
Stress	55	26.4
Awareness of Pap smear for screening for pre-invasive cervical condtions(n=208)		
Aware Pap smear is a screening test	44	21.2
Have done Pap smear before	8	3.8
Reason for having not done the Pap smear(n= 200)		
Ignorance	138	69
Thought it unnecessary	22	11
Fear	4	2
Where to do Pap smear not known	14	7
Wiliness to do Pap smear at next available opportunity	100	50

* These subpopulations also knew about the preventive nature of cervical carcinoma.

Table 4: Bivariate analysis between some respondents' characteristics and knowledge about cancer of the cervix

Characteristics	Yes		No		X^2	P Value	
	N	%	N	%			
Single	181	58	131	42	7.16	0.306	
Heard about STIs	165	61.3	104	38.7	6.506	0.011	*
Smoke cigarette	7	87.5	1	12.5	3.02	0.082	
Have had sex	69	56.1	54	43.9	0.326	0.568	
Multiple sex partner	48	55.8	38	44.2	2.769	0.250	
Heard of HPV	52	83.9	10	16.1	21.44	0.001	*

*Statistical significance at p< 0.05

Table 5 : Bivariate analysis of Papsmear screening knowledge and some variables

Characteristics	Knowledge of Papsmear screening				Statistics		
	Yes		No		X^2	P Value	
	N	%	N	%			
Heard about STIs	31	12.6	215	87,4	0.012	0.912	
Smoke cigarette	1	16.7	5	83.3	0.087	0.768	
Have had sex	15	12.6	104	87.4	0.008	0.929	
Multiple sex partner	8	10.7	67	89.3	0.816	0.407	
Heard of HPV	16	28.1	41	71.9	16.694	0.001	*

*Statistical significance at p< 0.05

Table 6: Multivariate analysis of some selected variables and early initiation at sex

	Heard about HPV	Heard about Ca Cervix	Heard About C/ceptives	Used C/ceptives	Smoking	Had Pap smear done
Early initiation at sex	OR=1.4	OR=0.7	OR= 1.3	OR= 3.9	OR=6.0	OR=1.4
	95%CI=0.26 -7.61	95%CI=0.1- 3.64	95%CI=0.15 -11.12	95%CI=1.05 - 14.84	95%CI=0.96 - 37.35	95%CI=0.1 - 13.3
	P=0.332	P= 0.34	P=0.446	P= 0.023 *	P= 0.089	P=0.37

*Statistical significance at $p < 0.05$, C/eptives= contraceptives