KNOWLEDGE OF CERVICAL CANCER, PAPANICOLAOU SMEAR AND ITS UTILIZATION AMONG FEMALE UNDERGRADUATES IN A MEDIA COLLEGE IN JOS, PLATEAU STATE

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ABSTRACT

Background: Cervical cancer is a largely preventable disease. In western countries, the incidence of and mortality associated with cervical cancer has reduced substantially following the introduction of effective cervical screening programmes. This is in contrast to what is obtained in Africa including Nigeria where cervical screening is rudimentary or non- existent.

Aim: This study seeks to assess the knowledge of cervical cancer, papanicolaou smear and its utilization among undergraduate students in Nigeria Television Authority College, Jos, Plateau state.

Methods: the study was a descriptive, cross sectional, questionnaire based study in which a systematic random sampling technique was used to recruit the desired sample population, and these recruited participants were administered the questionnaire which was used for data collection. The questions were made to capture the objectives of the study.

Results: Most of the respondents 267 (65%) were aware of cervical cancer, 134 (30.2%) respondents knew that HPV was an important aetiological factor, while only 118 (28.7%) were aware of papanicolaou smear. 207 (50.4%) knew that cervical cancer begins as abnormal cervical changes. Only 63 (15.3%) of the respondents had carried out a pap smear.

Conclusion: The study conducted shows that the knowledge of cervical cancer, papanicolaou smear and its utilization among the study population is still generally low.

INTRODUCTION

Carcinoma of the cervix is a major public health problem throughout the world. It is the second most common malignancy in women worldwide. However, it is the most common cancer in women in the third world,where over three quarters of the estimated half a million newly diagnosed cases occur annually.[1,2] Cervical cancer is the leading cause of mortality among women worldwide.[3] WHO estimates that the contribution of cervical cancer to adult female death is 35%.[4] However, it is also the most preventable type of human cancer because of its slow progression, identifiable precursors and effective treatments[5].

The rates of cervical cancer in developed countries are 5 per 100,000 women compared with 25 per 100 000 women in low resource countries. The high mortality rates are due to the advanced stage at presentation, affected women being unable to complete therapy, lack of available treatment, and unaffordable therapy.[6] It accounts for approximately 300,000 deaths annually worldwide and half a million new cases are reported each year.[7] Approximately, 80% of these new cases come from developing countries where the disease is also the leading cause of cancer related deaths among women.[8] In Nigeria, the national incidence of cervical cancer is 250/100 000.[9] Oguntayo et al (2011) reported that cervical cancer was the leading cause of gynecological cancers in Northern Nigeria, accounting for 65.7% of all gynecological cancers.[10] This high incidence was also observed in Ibadan and Maiduguri 62.7%and 72.6% respectively.[11] In Kano, Illorin, Jos, Benin and Zaria, it accounted for 59.2%, 60%, 74%, 74.6%, and 77% respectively.[12-14]

Data from Ghana, Kenya and Zimbabwe shows that it accounted for 57.8%, 70-80% and 80% of gynecological cancers respectively.[15] In developed countries the incidence of the disease has decreased over the years because of well organized cervical screening programmes.[15, 16] In Canada and the USA it accounted for 2.4% and 1.5% of new cases and 1.4% and 1.3% of cancer related deaths.[15]

The known primary underlying cause is the human papilloma virus (HPV), which is the most common sexually transmitted infection worldwide, and it is estimated that 50% to 80% of sexually active women are infected at least once in their lifetime.[17] Cervical cancer is caused mainly by infection with certain strains of human papilloma virus (HPV), that infects the epithelial cells of the cervix uteri and can result in precancerous lesions and invasive cancer. Currently, over 120 different HPV types have been identified, of which at least 38 primarily infect the genitalia. Four high risk types (HPV-16, 18, 31 and 45) account for about 80% of invasive cancer of the cervix collected from around the world.[17]

Many risk factors have been implicated, they include early age at first sexual intercourse, early marriage, high parity, multiple male sexual partners, male sexual partners who have had multiple sexual partners, early age at first birth, smoking, familial predisposition, long use of oral contraceptive pills, low social class, immune-suppressed state and commoner in the black race.[16,18] Most of these are associated with increase exposure to HPV. Evidence is emerging that HIV/AIDS accelerates the transformation of pre-malignant disease to invasive disease. HPV is more prevalent in women who are HIV sero-positive than those who are sero-negative.[18]

In a study conducted among 200 women in Aba, South-East Nigeria to determine the level of cervical cancer awareness, the prevalence of major risk factors and their rate of utilization of Pap smear, overall knowledge of cervical cancer was low and only 16% had any knowledge of Pap smear.[19] A cross-sectional descriptive survey carried out among 483 randomly selected market women at Aleshinloye market revealed that only 40.8% were aware of cervical cancer while 19.7% were aware of

Pap smear. However, only 5.2% had had previous Pap smear.[1] In another cross-sectional survey, on cervical cancer risks, knowledge of Pap smear and utilization among female undergraduates at Ibadan. It revealed that the risk factors were prevalent among female undergraduates. About 71% were aware of cervical cancer while only 33.5% were aware of Pap smear. Awareness was better among students of college of medicine and married ones. Only 8.3% had ever done a Pap smear.[19] At the JUTH a study to determine if there is improvement in the awareness and utilization of Pap smear among female health workers and to determine the possible role of the gynecologists. About 93.5% affirmed to the knowledge of Pap smear. On further scrutiny, 56.5% knew what it actually was. It was 49.7% among nurses, 50% among pharmacist while 96.4% of doctors had knowledge about Pap smear.[21]

At least one third of all cancer cases are preventable and another one third permits the early detection and effective treatment. Early detection and diagnosis can then greatly increases the chances for successful treatment particularly relevant for common female cancer like Cancer cervix[22].

METHOD

STUDY AREA

The study was conducted in the Nigeria Television Authority College which is located in Jos, Plateau state, North Central Nigeria.

INCLUSION AND EXCLUSION CRITERIA

The study population comprised all female students of the NTA College Jos, Plateau state. All male students and the staff of the NTA College were excluded.

STUDY DESIGN

This descriptive cross-sectional study was conducted among female undergraduates of the NTA College Jos, Plateau state in the month of February 2015.

SAMPLING METHOD

A systematic random sampling technique was used to recruit the desired sample size.

DATA COLLECTION INSTRUMENT

The survey instrument was a self-administered questionnaire containing open ended and closed-ended questions on respondent's biodata, awareness about cervical cancer and screening practices. Pre-testing of the questionnaire was done among 20 students before the final questionnaire was developed. The questionnaire was used to obtain information on the socio-demographic characteristics of the respondents, knowledge about cervical cancer, papanicolaou smear and its utilization. The questionnaire was administered to a total of 422 participants. Respondents were given a free hand in response to questions and were only guided in their responses when they voluntarily called for help. They were also assured that the information provided would be kept confidential.

SAMPLE SIZE DETERMINATION

The minimum sample size for the study was obtained using the formula:

$n = p \times (1- p) \times (Z^2/ d)^2$. This is same as $n = Z^2pq/d^2$

where Z= standard deviation at 95% confidence interval = 1.96

p = prevalence/ proportion of students with knowledge about cervical cancer and its screening .since there are no studies regarding this topic in the study area p is taken as 50%

q = 1-p,

p= Prevalence of 50%

d= Desired degree of accuracy; here taken to be 0.05

$$\text{Sample size (n)} = \frac{(1.96)^2 \times 0.50 (1-0.50)}{0.05 \times 0.05}$$

$$n = \frac{3.84 \times 0.50 \times 0.50}{0.0025} = \frac{0.96}{0.0025}$$

= 384

The sample size, was adjusted to compensate for an

attrition rate of 10%

Therefore 10% of 384 = 38.

Minimum sample size = 384 + 38 = 422

Sample size of 422 was chosen

11 questionnaires were not properly filled, therefore a total of 411 questionnaires were analyzed.

The data collected were analyzed using the SPSS statistical package version 16.0 (SPSS Inc, Chicago, IL).

RESULTS

TABLE 1: **Socio-demographic characteristics of female students interviewed at NTA College (n=411)**

Table 1a

Variables	Frequency (n)	Percentages (%)
Age (years)		
15-20	196	47.7%
21-25	152	37%
26-30	33	8%
31-35	23	5.6%
36-40	5	1.2%
40-45	2	0.5%

From table 1a students aged between the ages of 15-25 make up 84.7% of the respondents. This reflects a youthful and educationally driven group

Table 1b

Variables	Frequency (n)	Percentages (%)
Marital status		
Single	343	83.5%
Married	64	15.6%
Separated	2	0.5%
Widowed	2	0.5%

Table 1c

Variable	Frequency (n)	Percentages (%)
RELIGION		
Christianity	365	88.8%
Islam	46	11.2%

TABLE 2: AWARENESS OF CERVICAL CANCER AND ITS RISK FACTORS, SOURCE OF INFORMATION

VARIABLES	FREQUENCY	PERCENTAGE
Awareness of cervical cancer		
Yes	267	65%
No	144	35%
Awareness of its risk factors		
Correct response	90	21.9%
No idea	132	32.1%
Mixed response	62	15.1%
Wrong response	127	30.9%
Source of information		
Media	94	35.2%
Health worker	65	24.3%
Others	108	40.5%

From table 2 most of the respondents 267(65%) claimed to be aware of cervical cancer. However only about 90 (21.9%) respondents gave correct response to some of the risk factors they think is implicated in the etiology of cancer of the cervix. The remaining 78.1% had no idea, gave a mixed or wrong response to some of the risk factors they think could be implicated in the etiology of cervical cancer. Of the 267 (65%) respondents who claimed to be aware of cervical cancer, only 65 (24.3%) got their information from a health worker.

Table 3: AWARENESS OF SOME RISK FACTORS

VARIABLE	FREQUENCY	PERCENTAGE
Early sex		
Yes	207	50.4%
No	61	14.8%
Not sure	143	34.8%
Early marriage		
Yes	123	29.9%
No	143	34.8%
Not sure	145	35.3%
Poor social status		
Yes	73	17.8%
No	205	49.9%
Not sure	133	32.3%
Less in virgins		
yes	189	46%
No	71	17.3%
Not sure	151	36.7%
Multiple sexual partners		
Yes	230	56%
No	45	11%
Not sure	136	33%
High parity		
Yes	71	17%
No	135	33%
Not sure	205	50%
Black race		
Yes	75	18%
No	134	33%
Not sure	202	49%
Cigarette smoking		
Yes	111	27%
No	126	31%
Not sure	174	42%
Contraceptive pills		
Yes	122	29.7%
No	73	17.8%
Not sure	216	52.5%
HIV	103	25%
Yes	107	26%
No	201	49%
Not sure		
HPV		
Yes	124	30.2%
No	49	11.9%
Not sure	238	57.9%

From table 3 it can be seen that regarding the awareness of various risk factors, 134 (30.2%) respondents knew that HPV was an important predisposing factor, 207 (50.4%) early coitarche, 230 (56%) multiple sexual partners, 111 (27%) cigarette smoking, 71 (17%) high parity and 103 (25%) HIV, were other risk factors which the respondents were aware of.

Table 4: AWARENESS OF PAP SMEAR AND AWARENESS THAT CERVICAL CANCER BEGINS AS ABNORMAL CERVICAL CHANGES

VARIABLES	FREQUENCY	PERCENTAGES
Aware of pap smear		
Yes	118	28.7%
No	293	71.3%
Awareness that cervical cancer begins as abnormal cervical changes		
Yes	207	50.4%
No	204	49.6%

From table 4, of all the respondents 207 (50.4%) were aware that cervical cancer begins as abnormal cervical changes while the rest 204 (49.6%) were not aware that cervical cancer begins as abnormal cervical changes. From the study 118 (28.7%) respondents were aware of Pap smear while the rest 293 (71.3%) were not aware of Pap smear.

Table 5: DONE PAP SMEAR AND DURATION SINCE LAST SCREENING

VARIABLES	FREQUENCY	PERCENTAGES
Done pap smear		
Yes	63	15.3%
No	348	84.7%
Duration since last pap smear		
<1year	18	28.6%
1-2 years	29	46.0%
3-4 years	11	17.5%
>4years	5	7.9%

In table 5, of all the respondents only 63 (15.3%) claim to have done a pap smear while the rest 348 (84.7%) have never carried out a pap smear. Of the 63 (15.3%) respondents who have done a pap smear, 18 (28.6%) last carried out a pap smear < 1 year ago, 29 (46%) last had a pap smear 1-2 years ago, 11 (17.5%) last had a pap smear 3-4 years ago and 5 (7.9%) last carried out a pap smear over 4 years ago.

DISCUSSION

This study has shown low utilization of Pap smear (15.3%), despite significant awareness level of the disease (65%) which agrees with several studies in our environment but in different subject groups.[19, 23-36] Findings from this study where level of awareness was 65% however contrasts with high levels of awareness found among college- aged female students in the United Kingdom where a prevalence of 90% was reported.[27] It also contrasts with the low levels of awareness recorded among refugees in Ore camp (22%), market women in Ibadan (40.8%).[28]

Only about 27% of our study respondents knew about the link between smoking and cervical cancer, which is slightly higher than studies reported from Ghana 1%,[29] Sri-lanka 20.8%[30] but much lower than that reported from studies conducted in Malaysia 61%.[31]

Cervical cancer screening centres are still very few in our environment and mostly concentrated in urban areas and hospital-based.[32,33] This might account for the low level of awareness (28%) and utilization (15.3%) of Pap smear demonstrated in this study. In a study carried out in Ghana the utilization was 8.5%, while it was 5.7% and 8.7% in Nnewi and Ogun state respectively.[24,34,35] The low participation in cervical cancer screening observed in this study and similar studies in developing countries is unlike the findings in most developed countries with market economy and computerized screening programs where uptake of cervical cancer screening was generally high. In one of such studies in Germany, most women in the study group had a pap smear test at least once a year

and only a few had a smear less frequently than every five years.[36] Also among Chinese American women in the USA, utilization of pap smear was as high as 84%.[37]

In this study it was observed that both the awareness and practice of cervical cancer screening (Pap smear) were low 28.7% and 15.3% respectively. This contrasts with an Enugu study (by Cyril CD et al) which recorded that increased awareness of Pap smear does not translate to its use.[38]

From the study most of the respondents got their source of information from others (friends and families) and this accounted for 108(40.5%), 94(35.2%) of the respondents got their information from the media (TV/newspaper/internet/radio) and 65(24.3%) respondents got their source of information from a health worker. Various studies have recorded different findings. In one of such studies in Kenya, healthcare providers were the principal source of information, also in Nigeria, the major source of information about cervical smear was hospital/health facility in Owerri.[39, 40]

The role of professional and public education combined with availability of screening and treatment of early stage of invasive cervical cancer cannot be over emphasized as this have been shown to reduce morbidity and associated with the disease.[41]

STUDY LIMITATION:

- The study was cross sectional so causal conclusions cannot be drawn
- The investigation was carried out with students from one college and inclusion of other centers could have resulted in different results
- Students in this college are not representative of young adults in general and the cervical cancer attitude and practice may be different in other sectors of the population

CONCLUSION

The study conducted shows that the knowledge of cervical cancer, Pap smear and its utilization among the study population is still generally low. This is worrisome as these students are prospective workers in the communication and information sector. Health educations, combined with availability of the screening at affordable cost are major factors in reducing the scourge of the disease in this part of the world.

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