

# AWARENESS AND UPTAKE OF PAPANICOLOAU SMEAR SCREENING AMONG STUDENTS OF A HIGHER INSTITUTION IN JOS, NIGERIA.

BY

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## Abstract:

**Background:** In Nigeria Cancer of the Cervix (CA cervix) is the commonest gynecological malignancy and second commonest cancer in the country after breast cancer.

**Methodology:** It was a cross sectional study in which self-administered questionnaires were filled and returned by 457 respondents who were all undergraduate students of University of Jos. The data was analyzed using SPSS version 17 statistical software and the result was presented in simple percentages.

**Result:** There were 457 respondents, most (60.6%, 27.1%) were within the ages of 21-25 years and < 20 years respectively, about one-third of respondents (31.5%) were sexually active of which 48.6% had history of multiple sex partners. Awareness of Ca cervix is 80.7% and source of information was predominantly media (53.1%) and friends (26.3%). 44.2% had appropriate knowledge of causes/risk factors of the disease. 36.2% were aware of cervical cancer screening but only 29.3% heard of papanicolaou test while just 2.4% of the respondents had ever been screened though 66.1% were willing to be screened.

**Conclusion:** Though the level of awareness of the existence of the disease entity was high, the awareness of the risk factors/ causes of the disease and the cervical screening method was low, the uptake of the screening was also low (2.4%) even though a good proportion of the respondents were willing to be screened.

**Keywords:** Cervical Cancer, Papanicolaou Smear, Awareness, Uptake, Undergraduate Students.

## INTRODUCTION

Cancer is a public health problem worldwide, it is the second most common cause of death in developed countries and among the leading causes of deaths in developing countries.<sup>1</sup> Globally about 24.6 million people live with cancer and 12.5% of all deaths are attributable to cancers.<sup>1</sup> It is estimated that by the year 2020, 16 million new cases will be diagnosed annually out of which 70% will be in the developing countries.<sup>1</sup> Parkin et al reported that lifetime risk of cancer deaths in African women is two times higher than in developed countries.<sup>1</sup>

In Nigeria Cancer of the Cervix (CA cervix) is the commonest gynecological malignancy and second commonest cancer in the country after breast cancer.<sup>1,2,3</sup> It is a significant cause of gynecological morbidity and mortality as evidenced by the study done in Nnamdi Azikwe University Teaching Hospital, Nnewi in which a five year data analysis of hospital admission showed CA cervix

accounting for 65.2% of gynecological malignancies and 13.4% of gynecological admissions.<sup>3</sup> Moreover, In Nigeria the national incidence of cervical cancer is 250/100,000.<sup>4,5</sup> In the developed countries, it has been noted that the establishment of organized screening programs to detect the pre-cancerous stage has reduced the morbidity and mortality of this cancer, as early detection is key to reducing the prevalence of CA cervix.<sup>1,4,6</sup> The awareness of CA cervix and early papanicolaou (pap) smear screening is key to early detection. Hence this study was set out to determine the level of awareness and utilization of pap smear screening among the undergraduate students of the University of Jos, Nigeria.

## MATERIALS AND METHOD

The study was carried out among female undergraduate students of reproductive age group in the faculties of Medical Sciences, Natural

Sciences and Social sciences of the University of Jos.

It was a cross sectional study involving 384 female students across the above mentioned faculties. The sample size was determined using the formula  $N = Z^2 pq / d^2$ .

$N$  = minimum sample size

$Z$  = 95% confidence limit which was 1.96

$P$  = the prevalence limit put at 50% = 0.5

$Q$  = 1 -  $P$  = 0.5

$D$  = absolute precision error tolerated which was 5% (0.05)

The estimated sample size was 384 with a 20% non-response rate that was calculated bringing the sample size to 460

Three faculties were selected each from the nine faculties in the University through a simple random sampling technique, in each of the faculties, three departments were selected through a simple random sampling technique and finally, from each of the departments, 51 female students were selected through a simple random sampling technique by balloting. Only those who consented through an informed verbal consent were included in the study after ensuring them of confidentiality.

Data was then collected using a self-administered questionnaire and analyzed using the SPSS version 17 statistical software and the result was presented in proportions.

### ETHICAL CONSIDERATION

A written permission was obtained from the University, the various faculties and departments and an informed verbal consent was gotten from the individual students before the commencement of the study.

There were a total of 457 completed and returned questionnaires. The data was analyzed using SPSS version 17 statistical software and the result was presented in proportions.

### RESULTS

The study had 457 respondents; most (60.6%) were between the ages of 21-25 years while 27.1% were less than 20 years of age. Majorities (94.1%) were Christians and most (93.7%) were singles.

Among the respondents, 31.5% have had sexual intercourse before, of which almost half (48.6%)

had history of Multiple Sexual Partners (MSP). [Table 1]

The awareness of CA cervix among the respondents was 80.7% and the main source of information were media (53.1%) and friends (26.3%) and only few (12.7%) got their information from the hospital [Table 2]

The appropriate knowledge of people at risk of CA cervix was 45.8% with 27.4% stating people with MSP as being at risk group and 18.4% said people with early age at sexual intercourse are at risk, while 33.7% had no knowledge of people at risk at all.

Only 10.1% knew Human Papilloma Virus (HPV) as the causative agent and 42% took the risk factors as causes while 42% did not know the cause. Concerning the disease being preventable, 63.7% said 'Yes' while 32.6% said they did not know. Of the 'Yes' answers and in a multiple option question, 40.9% did not know the preventive option, 19% said early diagnosis and treatment is the preventive option while 16.4% and 20.1% said avoidance of sex at early age and MSP respectively were the preventive options.

For the availability of screening test, 36.2% said 'Yes' while 64.8% were not aware of any screening test being available. Among the 'Yes' option, only 66(41%) knew the screening test while 89(55.3%) did not know the screening test, though 134(29.3%) of respondents had heard of pap smear test while 70.7% (323) never heard of pap smear test. The sources of information were predominantly media, friends and hospital with 39.6%, 34.3% and 21.6% respectively. In addition, 77.6% were aware that the screening test is available in the hospital while 20.1% did not know where the screening could be done. [Table 4]

For the utilization of the screening test, only 2.4% had ever been screened for CA cervix while 97.6% were never screened. For willingness to be screened, 66.1% said 'Yes' while 33.9% said 'No'. Majority (81.9%) of the 'No' group had no reason for not wanting to be screened while 14.2% and 3.9% said 'not infected' and 'don't want to know my status' respectively as the reason for not wanting to be screened. Table [5]

TABLE 1: SOCIODEMOGRAPHY DATA

	FREQUENCY	PERCENT
Age		
≤20	124	27.1
21-25	277	60.6
26-30	47	10.3
≥30	9	2.0
Total	457	100
Religion		
Christianity	430	94.1
Islam	27	5.9
Total	457	100
Marital Status		
Single	428	93.7
Married	29	6.3
Total	457	100
Ever had sex		
Yes	144	31.5
No	313	68.5
Total	457	100
Number of sex partners		
1	74	51.4
2-3	61	42.4
>3	9	6.2
Total	144	100

TABLE 2: AWARENESS OF CANCER OF THE CERVIX

PARAMETER	FREQUENCY	PERCENT
Ever heard of CA Cervix		
Yes	369	80.7
No	88	19.3
Total	457	100
Source of Information		
Media	196	53.1
Friends	97	26.3
Family	29	7.9
Hospital	47	12.7
Total	369	100
People at risk		
People with multiple sex partners	125	27.4
Oral contraceptive pills users	94	20.6
Early age of sexual intercourse	84	18.4
Don't know	154	33.7
Total	457	100
Family history of Ca cervix		
Yes	8	1.8
No	427	93.4
Don't know	22	4.8
Total	457	100

TABLE 3: KNOWLEDGE OF CANCER OF CERVIX

	FREQUENCY	PERCENT
People at risk		
People with multiple sex partners	125	27.4
Oral contraceptive pills users	94	20.6
Early age of sexual intercourse	84	18.4
Don't know	154	33.7
Total	457	100
Causes of CA Cervix		
Sex at early age	60	13.1
Multiple sex partners	96	21.0
Human Papilloma Virus infection	46	10.1
Gonorrhoea, Syphilis, HIV / other STDs	36	7.9
Oral contraceptive use	27	5.9
Don't Know	192	42.0
Cure for CA cervix		
Yes	125	27.4
No	48	10.5
Don't know	284	62.1
Total	457	100

Treatment options		
Surgery	25	20
Chemotherapy	16	12.8
Others [Vaccines, radioactive ray treatment]	12	9.6
Don't know	17	13.6
Total	55	44
Total	125	100
CA cervix preventable		
Yes	291	63.7
No	17	3.7
Don't know	149	32.6
Total	457	100
preventive options		
Avoid sex at early age	75	16.4
Avoid multiple sex partners	92	20.1
Use Condom	16	3.5
Early diagnosis and treatment	87	19.0
I don't know	187	40.9

TABLE 4: AWARENESS OF SCREENING TEST

	FREQUENCY	PERCENT
Aware of screening test for Ca cervix		
Yes	161	36.2
No	296	64.8
Total	457	100
Screening methods available		
Pap smear	66	41.0
I don't know	89	55.3
Vaginal swap	6	3.7
Total	161	100
Heard of Pap smear test		
Yes	134	29.3
No	323	70.7
Total	457	100
Source of information		
Media	53	39.6
Hospital	29	21.6
Friends	46	34.3
Family	6	4.5
Total	134	100
place for screening test		
Hospital	104	77.6
Don't know	27	20.1
Laboratory	3	2.2
Total	134	100

TABLE 5: UTILIZATION OF SCREENING TEST

	FREQUENCY	PERCENT
Ever been screened for Ca cervix		
Yes	11	2.4
No	446	97.6
Total	457	100
Willingness to be screened		
Yes	302	66.1
No	155	33.9
Total	457	100
Reasons for not wanting to be screened		
I am not infected	22	14.2
I don't want to know my status	6	3.9
No reason	127	81.9
Total	155	100

## DISCUSSION

The Jos cancer registry from 1995 to 2002 revealed Cancer of the Cervix as the second most prevalent cancer (17.7%) after cancer of the breast (18.6%), and this is in keeping with findings from other cancer registries across Nigeria.<sup>1</sup> Data from various parts of the country showed that cancer incidence is increasing with female cancers leading and this has been attributed to poor awareness about the risk factors and change of lifestyle.<sup>1</sup>

This study was carried out among predominantly young age group with 60.6% of respondents aged 21-25 years. It's been shown that age group affected by CA cervix is between 17-80 years with peak incidence in the 5<sup>th</sup> decade (40-49 years), though the disease could be indolent for 15-20 years<sup>1</sup> so that for the peak age of incidence, the indolent stage could be detected within the predominant age group of this study, besides, the practice of the predominant predisposing factors: MSP, unprotected sex and early coitus often begins during the predominant age group of this study. This is evident by this study finding in which though 93.7% of respondents were single, 31.5% were sexually active with almost half of them (48.6%) which is approximately 15% of respondents having history of MSP. This is also reflected in similar study among undergraduates of University of Ibadan where 81.5% of respondents were sexually active with 51.7% having the experience before age 20 years and 57% with the history of MSP.<sup>7</sup> In addition, the study's predominant age group falls in the World Health Organization's recommended age group for the first pap smear to be done.<sup>8</sup>

The level of awareness of CA cervix in this study was 80.7% and this is higher when compared with similar study carried out among female staff of University of Lagos (Unilag) and Yaba College of Technology (Yabatech) which was 63.9% and 60.7% respectively<sup>8</sup> as well as the study in University of Ibadan, Nigeria with 71% level of awareness.<sup>7</sup> However, higher level of awareness was found among female university staff and students in Accra, Ghana (93%).<sup>8,9</sup> The main sources of information on CA cervix in this study were media (53.1%) and friends (26.3%). This is in keeping with Yabatech study in which the main source of information were media (55.6%) and friends/family (25.3%).<sup>8</sup> The hospital as source of information in this study was low (12.7%). This may not be surprising as the participants may not have had reason for hospital visit in a long while

and even when seen in the hospital, it might have been for other non related medical illnesses and by other non related specialty physicians.

Appropriate knowledge of people at risk (MSP and early coitus) was found in 45.8% of respondents with 27.4% stating people with MSP as risk group while 18.4% said it is early age of sexual intercourse. This is in keeping with 23.1% of Unilag respondents and 23.3% of Yabatech respondents who said people with MSP are at risk group as well as 17.2% and 14.1% of Unilag and Yabatech respondents respectively who said early age at first sex was a predisposing risk factor.<sup>8</sup> Twenty point six percent of this study respondent also believed that Oral contraceptive pills (OCPs) users are also at risk of CA cervix. Though literatures on studies of the relationships between CA cervix and OCPs use shows a slight increase in risk of the former with use of the latter, it is still thought that the relationship is indirect with the likely increase in unprotected sexual intercourse of the OCPs users predisposing them to consistent infection and re-infection with HPV which is a necessary cause of the CA cervix. Hopefully, further ongoing research may put to rest these inconclusive arguments.<sup>8,10,11,12,13</sup>

The study also revealed that 10.1% of respondents knew HPV infection as the causative agent. This finding is in agreement with the 13% and 11.7% findings of Unilag and Yabatech studies respectively,<sup>8</sup> while a South African based undergraduate study revealed a higher level of 32%.<sup>14</sup> The low finding on the knowledge of HPV infection as causative agent of CA cervix in this study is however low especially when compared to findings of similar studies among Australian women which recorded a high level of HPV awareness (89%).<sup>8</sup> Thus there is need to improve on the aspect of health education among our women on HPV infection, it's transmission and prevention especially with the HPV vaccine.

The level of awareness of the availability of a screening test for CA cervix was rather low (36.2%) among the respondents and of this subgroup, only less than half (41%), that is approximately 15% of the respondents knew the screening test as pap smear test. The awareness of the specific screening test as pap smear of 15% is comparably lower than the 36.1% finding of Unilag study though in agreement with the 16.6% finding in the Yabatech study.<sup>8</sup> This low level of pap smear awareness is not peculiar to this study alone as other studies nationwide reflects same findings: 19.7% in Ibadan, less than 10% in Maiduguri and 6% in Orlu.<sup>8,15,16,17</sup>

The findings of this study gives a clear and urgent need to give attention to enlightenment of the public on these issues which should involve the educational and traditional institutions, health facilities and community groups.

This study also revealed low level of uptake of cervical pap smear with only 2.4% of the respondents having done the test as against the approximately 15% of the respondents who were aware of the test. This level is significantly low and in keeping with, though lower than the UI based study in which the uptake of pap smear was in 8.3% of the study respondents.<sup>7</sup> Besides a far lower level of uptake of pap smear (0.6% of study respondents) was found among rural women in a similar study in Afikpo, South east Nigeria.<sup>18</sup> The high level of willingness to do the pap smear test in this study (66.1% of respondents) shows that with awareness campaign and provision of access to screening programs, uptake of the pap smear test should significantly improve.

## CONCLUSION

This study found that though the level of awareness of CA cervix was high, the knowledge of the people at risk and the cause of the disease was low and in addition, the knowledge of the preventive measures, the availability of the screening test and the uptake of the Pap smear test was low even though the willingness to undergo the screening test was encouraging among the students.

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