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# Awareness Of Female Health Workers And Non Health Workers On Cervical Cancer And Cervical Cancer Screening : South - South ,Nigeria.

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### Abstract:

*Cervical cancer still remains a high socio-economic, health challenges in the developing world. To achieve a significant decrease in the incidence of cervical cancer related morbidity and mortality: women should have adequate knowledge and awareness of the disease and screening. The aim of the study is to promotion the benefits of early detection by public awareness and knowledge of the diseases and factors; influencing the utilisation of the screening among non health and health workers in Rivers State and Bayelsa State, Nigeria*

*A cross sectional study using questionnaires were used for data collection. The mean age of the female non health workers was  $29 \pm 9.2$  and  $29 \pm 9.9$  years for the health workers. The respondents demonstrated high awareness on cervical cancer 415 (80.9%) where  $\chi^2 = 25.366$ ;  $p = 0.000$ ;  $df = 1$  and cervical cancer screening 382 (74.5%) where  $\chi^2 = 26.371$ ;  $p = 0.00$ ;  $df = 1$ . Mass media was the main source of information in the non-health workers group 115 (56.1%) while majority 202 (96.2%) of the health workers got there information from Doctors and fellow health workers. Surprisingly; 232(60.7%) are of the opinion that, cervical cancer screening is necessary for every sexually active woman. Despite that; only 71 (18.6%) of the respondents have had cervical cancer screening. Finally this reflects the general overview of the nature and degree of health information in the society. As it shows that even though the knowledge is acceptable on the disease, the awareness of the screening and uptake is very low.*

**Keywords:** Cervical cancer, awareness and knowledge, risk factors, screening, Nigeria

### Introduction

Cervical cancer is a leading cause of cancer death in women in developing countries <sup>1, 2, 3</sup>. A key factor linked to the relatively high levels of cervical cancer in these populations is the lack of

awareness and access to preventive methods <sup>3, 4</sup>. Cervical cancer has been observed to be the second most common cancer in women worldwide, second to breast cancer, the most common cause of death from all gynecologic

cancers and the fifth deadliest cancer in women world wide <sup>1, 5, 6</sup>. It affects close to 16 per 100,000 women per year, and the mortality rate close to 9 per 100,000 women per year <sup>2,4,19</sup>. Approximately 80% of cervical cancer cases occurs in the developing countries <sup>3, 6</sup>. In 2008; it was estimated that, there were 473,000 cases of cervical cancer globally and about 253,500 deaths per year from cervical cancer. Although these figures do not take into account the thousands of cases that were not reported to the appropriate authorities in most of the developing countries like Nigeria <sup>3,6,7</sup>, where women loses their lives without autopsy or proper diagnosis of the cause, due to socio-cultural beliefs and customs <sup>3,6,8</sup>. Literature; have shows an annual risk of cervical cancer for women between the age of 20-35 to be about 16-20% per 100,000 in the developed countries, the peak incidence between the age of 45-55 years and this figure is likely to be much higher in the developing countries <sup>1, 3</sup>. A recent government gross estimate in Nigeria shows an average of about 25,000 new cases per year <sup>6,9</sup>, though in most part of the country there are no proper official figures since not all cases are reported to the appropriate authorities<sup>4,9</sup>.

Predominantly a silent killer, with a high mortality in the developing countries, yet it is preventable, and also curable in the early stages<sup>10,23</sup>. The morbidity and mortality could be reduced greatly with effective preventive health care system; such as sex education, abolision of early child marriage in polygamous family, safe sexual practice, vaccinations and routine colposcopic evaluation during gynaecologic visit and a regular 1-3 years Pap smear test <sup>1,8,21</sup>. Evidently, there is an established relationship between cervical cancer and certain strains of HPV infection (mainly / 16,18/ subtypes), still the routine screening for HPV and colposcopy is not

generally accepted due to cost, and availability of the technology everywhere <sup>1,11,12</sup>. Despite the fact that, most of the screening is by Pap smear or VIA it may not meet the needed accuracy level to successfully undertake the required effectiveness of cervical cancer screening <sup>12,13</sup>.

The advantages and benefits of cervical cancer prevention using Pap smear test has been demonstrated in scandinavian countries like Sweden and Finland where there are national screening programmes<sup>14,15</sup>; hence had contributed immersly to the lowest incidence and prevalence of cervical cancer outcome. Also the cancer related morbidity, mortality have been reduced and the socio-economic, health burden of the society too. Meanwhile the high rate of late presentation of cases and the subsequent increase in the morbidity or mortality in cervical cancer in the developing world such as Nigeria may be attributed to lack of proper awareness, poor health polices or implimentations, traditional beliefs and other cultural implications <sup>5,8,9</sup>. Moreso; literature have shown that a high prevalence of HIV in the society, may also contribute immensely to the rapid progress of cervical cancer <sup>6,12,16</sup>. There is also strong epidemiologic evidence linking cervical cancer to the sexually transmitted Human Papilloma Virus (HPV) which is considered a strong co-factor for the initiation of cervical cancer <sup>4, 6, 17</sup> More than 35 types of the HPV are known to infect the genital tract out of which approximately 20 are associated with cervical cancer, with the most common types 16 and 18 while types 6 and 11 are more commonly associated with genital warts <sup>4, 17, 22</sup>. Other predisposing factors like; early sexual life, smoking, multiple sexual partners, genetic predisposition, compromised immunity, long use of oral contraceptives have all been associated with the development of cervical cancer. Many

studies in Africa have shown links between HIV-1 and invasive cervical cancer, which is why drastic approach in the reduction of HIV infection, could as well lead to a possible reduction of the incidence of cervical cancer particularly in Nigeria, and Africa in general<sup>8,16</sup>.

A well planned program on cervical cancer awareness, enlightenment and screening may eradicate pre-invasive disease<sup>3, 7</sup>. Studies have shown sensitivity and specificity of Pap smear screening to be 50-75% and 98-99% respectively<sup>13, 17</sup>. Methods such as colposcopic examination, VIA and HPV-DNA testing are used nowadays almost routinely in most developed countries<sup>1,4,18</sup>. However, in many of the developing countries due to low socio-economic status, lack of adequate skilled personnel and little governmental efforts, the screening are not efficient nor effective, since only small proportion of the population have access, or means to afford these test<sup>8,9</sup>.

WHO has recommended its member countries to develop and integrate cervical cancer screening into their health systems depending on the local, social, cultural and economic need? This will ensure a defined referral system for diagnosis, treatment and follow up. Although there is a national health policy in Nigeria, there is no integrated screening policy for cervical cancer<sup>20, 19, 21</sup>; few governmental organizations and private bodies do have scanty periodic campaigns. In Nigeria more emphasis are given to infectious diseases such as malaria, tuberculosis, leprosy, diarrheal diseases, acute respiratory infections, and sexually transmitted infections all of which have individual control programs<sup>20,21</sup>. This may be one of the reasons cervical cancer screening is very low in Nigeria; the small number of the screening is even done in the urban cities were more  $\geq \frac{1}{2}$  of the population now lives.<sup>8,9,21</sup>. It has

also been reported that about two thirds of the cervical cancer cases in Nigeria present at stages II b-III or even later<sup>6, 21</sup>. Reasons behind the low utilization of the screening methods include lack of proper knowledge and awareness, poverty, socio-cultural habits, lack of sex educational program and inadequate female education in some parts of the country<sup>6,9</sup>.

The aim of this study was to determine awareness of cervical cancer and screening practice among female health workers and female non-health workers in part of the south-south Nigeria.

#### **MATERIALS AND METHODS:**

This study was carried out in 2013, the collection of data's were made available to respondents by pre-trained medical personnel, and medical students of the Niger Delta University, Amasoma, Bayelsa State, and University of Port Harcourt, Rivers State in Nigeria. Exclusion criteria includes those persons in Prisons, secondary schools, special homes for the elderly, and the disables .After estimating the sample size, women ages 18 to 55 and above, of all works of life were randomly approached to complete a validated questionnaire. Consenting respondents were allowed 1 and  $\frac{1}{4}$  hours to complete, and were collected by these personnel. 550 questionnaires were given out, 513 were properly completed, and collected resulting in 93.3% response rate was observed.

This study measured the general public, and the health workers awareness, screening, and preventive knowledge of cervical cancer and to sort for information about the condition and suggestive input for the future. To ensure clarity the questionnaire was pretested on medical students at the Niger Delta University Teaching Hospital, Okolobri, Bayelsa State, Nigeria, and University of Port Harcourt, Rivers Sate .Those who took part in the pre test were not included in the study. The data from the questionnaire were entered and analyzed using SPSS version 10. Bivariate analyses using frequency distribution

and means were carried out to describe the characteristics of respondent. Chi square tests were made to find associations between the dependent and independent variables with significance set at <0.05.

## RESULT

The response of 281 (54.8%) female non health workers and 232 (45.2%) female health workers were analyzed in this study. Table 1 reveals the sociodemographic characteristics of the respondents. There was no statistically significant difference in the age distribution of the respondents ( $t = 1.10$ ;  $p = 0.274$ ;  $df = 511$ ), their religion ( $\chi^2 = 1.222$ ;  $p = 0.543$ ;  $df = 2$ ) and their ethnicity ( $\chi^2 = 0.635$ ;  $p = 0.175$ ;  $df = 4$ ). The mean age of the female non health workers was  $29 \pm 9.2$  years while the mean age of the female health workers was  $29 \pm 9.9$  years. Majority of the respondents were Christians 368 (71.7%) and of the Ijaw tribe 285 (55.6%). However, there was a statistically significant difference in the marital status of the respondents ( $\chi^2 = 22.438$ ;  $p = 0.000$ ;  $df = 3$ ) where majority of the female non health workers were Single 141 (50.2%) and majority of the female non health workers were Married 97 (41.8%). The respondents demonstrated high awareness (Table 2) on cervical cancer 415 (80.9%) where  $\chi^2 = 25.366$ ;  $p = 0.000$ ;  $df = 1$  and cervical cancer screening 382 (74.5%) where  $\chi^2 = 26.371$ ;  $p = 0.00$ ;  $df = 1$ . There was however no significant difference in the mean age at first intercourse between the two groups ( $t = 1.15$ ;  $p =$

0.249;  $df = 490$ ) but a statistically significant difference in number of life time sexual partners till date ( $\chi^2 = 9.323$ ;  $p = 0.025$ ;  $df = 3$ ) where majority 281 (41.2%) of the non-health workers have had more than or 4 lifetime sexual partners as opposed to 70 (%) of the health workers who had 2 lifetime sexual partners.

Table 3 reveals the source of information on cervical cancer and screening methods of the respondents. Majority of the non-health workers 115 (56.1%) got their information from the television or radio ( $\chi^2 = 18.199$ ;  $p = 0.000$ ) unlike majority 202 (96.2%) of the health workers who got information from Doctors and fellow health workers ( $\chi^2 = 204.38$ ;  $p = 0.000$ ). There is a statistically significant difference in the respondents 232 (60.7%) who expressed the opinion that cervical cancer screening is necessary for every sexually active woman ( $\chi^2 = 12.334$ ;  $p = 0.000$ ;  $df = 1$ ) but only 71 (18.6%) of these respondents have had cervical cancer screening (Table 4). Out of those that have had cervical cancer screening, only small proportion 5 (31.3%) of the non-health workers and majority 36 (65.5%) of the female health workers have screening done once a year. There is a statistical significant difference in the frequency of screening among the respondents ( $\chi^2 = 24.839$ ;  $p = 0.000$ ;  $df = 5$ ) where 4 (25%) of the non-health workers and 1 (1.8%) of the health workers have had only one session of cervical cancer screening done in the past ten years.

**TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS**

CHARACTERISTIC	NON HEALTH WORKERS Freq (%)	HEALTH WORKERS Freq (%)	TOTAL Freq (%)
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<b>AGE (years)</b>			
<b>16 – 25</b>	133 (47.3)	96 (41.4)	229 (44.6)
<b>26 - 35</b>	91 (32.4)	85 (36.6)	176 (34.3)
<b>36 – 45</b>	37 (13.2)	32 (13.8)	69 (13.5)
<b>&gt;45</b>	20 (7.1)	19 (8.2)	39 (7.6)
<b>TOTAL</b>	<b>281 (54.8)</b>	<b>232 (45.2)</b>	<b>513 (100)</b>
<b>Mean ( <math>\bar{x} \pm SD</math> )</b>	$\bar{x}_1 = 29 \pm 9.2$	$\bar{x}_2 = 29.9 \pm 9.3$	
<b>t = 1.10</b>	<b>p = 0.274</b>	<b>df = 511</b>	
<b>MARITAL STATUS</b>			
<b>Single</b>	141 (50.2)	74 (31.9)	215 (41.9)
<b>Married</b>	102 (36.3)	97 (41.8)	199 (38.2)
<b>Divorced</b>	10 (3.6)	12 (5.2)	22 (4.3)
<b>Cohabiting</b>	28 (9.9)	49 (21.1)	77 (15.0)
<b>TOTAL</b>	<b>281 (54.8)</b>	<b>232 (45.2)</b>	<b>513 (100)</b>
<b><math>\chi^2 = 22.438</math></b>	<b>p = 0.000</b>	<b>df = 3</b>	
<b>RELIGION</b>			
<b>Christianity</b>	201(71.5)	167 (72)	368 (71.7)
<b>Islam</b>	78 (27.8)	61(26.3)	139 (27.1)
<b>ATR</b>	2 (0.7)	<b>4 (1.7)</b>	6 (1.2)
<b>TOTAL</b>	<b>281 (54.8)</b>	<b>232 (45.2)</b>	<b>513 (100)</b>
<b><math>\chi^2 = 1.222</math></b>	<b>p = 0.543</b>	<b>df = 2</b>	
<b>ETHNICITY</b>			
<b>Ijaw</b>	162 (57.4)	123(53.2)	285 (55.6)
<b>Hausa</b>	23 (8.2)	10 (4.3)	33 (6.4)
<b>Yoruba</b>	32 (11.3)	27 (11.7)	59 (11.5)
<b>Igbo</b>	58 (20.6)	65 (28.1)	123 (24)
<b>Others</b>	7 (2.5)	6 (2.6)	13 (2.5)
<b>TOTAL</b>	<b>282 (55)</b>	<b>231 (45)</b>	<b>513 (100)</b>
<b><math>\chi^2 = 6.35</math></b>	<b>p = 0.175</b>	<b>df = 4</b>	

Approximately 49.8% (n=225/ 513) of the general public group had their first sexual experience before the age of 20 years, whereas 41.4% (n= 212/ 513), before 30years, 2.1% (n= 11/ 513) after 30 years of age, while 6.6% (n=34/513) never had sexual experiences in this group. In the health workers group there was a significant shift, with 23.8% (n=122/513) had their first sexual experience before 20years, 21% (n=106/513) before 30years, 1% (n=5/513) after 30years, while 1.6% (n=8 /513) never had sexual experiences. Among the respondents, 41.9% (n=215) were single, 38.2% (n=196) were married, those divorced accounted to about 4.3% (n=22), while those in relationship was 15.0% (n=77). There

were no significant difference in the issue of marriage; 18.9% (n=97/512 were married in the health workers group and 19.9% (n=102/512) , in the general public group. More than half of the respondents have had more than one sexual partners before the survey 74% (n=367), while 6.6% (n=34) of the respondents never had sex. Majority of the respondents were Christians 72.3% (n=367), while 26.5% (n=135) belong to the Islamic faith, 1.2% (n=6) could not identify their religious background. The Ijaws accounted to about 36.1% (n=185), other were 30% (n=133), Hausa were 2.50% (n=13), Ibo were 24% (n=123), meanwhile the Yoruba were 11.5% (n=59).

**TABLE 2: AWARENESS ON CERVICAL CANCER AND SEXUAL EXPOSURE**

VARIABLE	NON HEALTH WORKERS Freq (%)	HEALTH WORKERS Freq (%)	TOTAL Freq (%)
<b>AWARENESS on Cervical Cancer</b>			
Yes	205 (73)	210 (90.5)	415 (80.9)
No	76 (27)	22 (9.5)	98 (19.1)
<b>TOTAL</b>	281 (54.8)	232 (45.2)	513 (100)
$\chi^2 = 25.366$	$p = 0.000$	$df = 1$	
<b>AWARENESS on Cervical Cancer Screening</b>			
Yes	184 (65.5)	198 (85.3)	382 (74.5)
No	97 (34.5)	34 (14.7)	131 (25.5)
<b>TOTAL</b>	281 (54.8)	232 (45.2)	513 (100)
$\chi^2 = 26.371$	$p = 0.000$	$df = 1$	
<b>AGE AT FIRST INTERCOURSE</b>			
<20	133 (47.3)	113(48.7)	226 (51.85)
21 – 25	81 (28.8)	94 (40.5)	175 (34.1)
26 – 30	44 (15.7)	12 (5.1)	56 (10.9)
31 – 35	5 (1.8)	5 (2.2)	10 (1.9)
>35	2 (0.7)	3 (1.3)	5 (1)
Never had Sex	16 (5.7)	5 (2.2)	21 (4.1)
<b>TOTAL</b>	281 (54.8)	232 (45.2)	513(100)
<b>Mean ( <math>\bar{x} \pm SD</math> )</b>	$\bar{x}_1 = 22.12 \pm 4.3$	$\bar{x}_2 = 21.69 \pm 3.9$	
$t = 1.15$	$p = 0.249$	$df = 490$	
<b>Life time Sexual Partners Till Date</b>			
1	42 (14.95)	32(13.8)	74 (28.70)
2	61 (21.7)	70(30.17)	131 (51.87)
3	62 (22.1)	61(26.29)	123 (48.39)
≥4	116 (41.2)	69(29.74)	185 (70.94)
<b>TOTAL</b>	281 (54.8)	232 (45.2)	513 (100)
$\chi^2 = 9.323$	$p = 0.025$	$df = 3$	

**Table 2a:**

This table shows general knowledge of cervical cancer, and its screening awareness, and factors affecting the rate of screening and implications involved. The study did not discuss, about the possible causes, or risk factors leading to the onset of the disease.

The knowledge about cervical cancer was 73.0% (205) and 90.5% (210) respectively, while the overall is 80.90% (n=419). Knowledge of the screening, 65.5% (184) and 85.3 (198) respectively, and the overall is 74.5% (382). Among the respondents 15.0% (n=71) have done cervical cancer at least once while 85.0% (n=397) never had cervical cancer screening. There was a significant different between the two groups with 27.8% (n=55) ever done the screening in the health workers group and only 8.7% (n=16) in the non health workers group. Despite the large respondents in the area of knowledge only 60.7% (N=232) are of the opinion that, the screening is necessary.

**Table: 2b. BENEFIT OF SCREENING AND GOVERNMENTAL ROLE**

Screening will reduce cervical incidence (both groups)	Percentage %
Yes	74.85% (n=384)
No	24.9% (n=129)
<b>CC. screening be free for all</b>	
yes	91.8% (n=470)
no	8.4% (n=43)
<b>Government play important role in CC screening</b>	
yes	95.3% (n=489)
No	4.67% (n=24)
<b>Aware of HPV screening</b>	
Yes	30.99% (N=159)
Not aware	69.01% (N=354)

Majority of the respondents agree that, screening will reduce the incidence of cervical cancer 74.85% (n=384), and 24.9% (n=129) disagree, 485 respondents 91.8% (n=470) advocate for free screening, knowing the socio-economic backwardness of the society. Also, 95.3.0% (489) respondents suggest for more government role, with sex education, and general medical screening be part of the educational curriculum, 4.68% (24) were opposed to the idea.

**TABLE 3: SOURCE OF INFORMATION ON CA CERVIX**

SOURCE OF INFORMATION	NON HEALTH WORKERS (n=205) Freq (%)	HEALTH WORKERS (n=210) Freq (%)	x <sup>2</sup>	p
Radio/Television	115 (56.1)	74 (35.2)	18.199	0.000
Newspapers/Magazines	28 (13.7)	88 (41.9)	41.097	0.000
Internet	19 (9.3)	21 (10)	0.064	0.801
Sexual Partner/Friends	14 (6.8)	46 (21.9)	19.063	0.000
Parents/Family Members	96 (46.8)	13 (6.2)	88.462	0.000
Doctors/Health Workers	58 (28.3)	202 (96.2)	204.38	0.000
Church/Mosque	16 (7.8)	9 (4.3)	2.269	0.192

Among the respondents about the source of information, radio and televisions was the most common 56.1% (n=115) for NHW, while 35.2% (n=74) for HW. Meanwhile 96.2% (202) of HW had the information through doctors and other health workers, the NHW with 28.3% (n=58).

**TABLE 4: PERCEPTION OF RESPONDENTS ON CERVICAL CANCER SCREENING AND SCREENING PRACTICE**

CHARACTERISTIC	GENERAL PUBLIC (n=184) Freq (%)	HEALTH WORKERS (n=198) Freq (%)	TOTAL Freq (%)
<b>Cervical Cancer Screening Necessary for every Sexually Active Woman?</b>			
Yes	95 (51.6)	137 (69.2)	232 (60.7)
No	89 (48.4)	61 (30.8)	150 (39.3)
<b>TOTAL</b>	184 (48.2)	198 (51.8)	382 (100)
$\chi^2 = 12.334$	p = 0.000	df = 1	
<b>Have You Been Screened?</b>			
Yes	16 (8.7)	55 (27.8)	71 (18.6)
No	168 (91.3)	143 (72.2)	311 (81.4)
Screened >1x	3(1.60)	11(5.26)	382 (100)
<b>TOTAL</b>	187 (48.2)	209 (51.8)	14(6.86)
$\chi^2 = 22.95$	p = 0.000	df = 1	
<b>How Often Do you go for Ca Cx Screening? (for those that have had screening)</b>			
Once a Year			
Every two Years	2 (12.5)	36 (65.5)	38 (53.5)
Every three Years	5 (31.3)	4 (7.2)	9 (12.7)
Irregular Timing (but once in the past five years)	1 (6.3)	0 (0)	1 (1.4)
Irregular Timing (but once in the past ten years)			
>10 years Now	2 (12.5)	11 (20)	13 (18.3)
<b>TOTAL</b>	2 (12.5)	3 (5.5)	5 (7)
$\chi^2 = 24.839$	4 (25)	1 (1.8)	5 (7)
	16 (22.5)	55 (77.5)	71 (100)
	p = 0.000	df = 5	

## Discussion

During this survey we tried to compare the relative knowledge, and awareness of the deadly disease in our midst (cervical cancer) among the general public and health workers the Niger delta region. It was observed that majority of the

respondents are aware of the disease, in both groups 80.9% (n=415/513). The general outlook was encouraging, when the knowledge and awareness of the screening was review 74.5% (n=382/513) respondent positively. Those who have been screened before was 18.6% (n=71) for

both groups, this very low uptake is dangerous to the future development of the country. Although figure is extremely low, in spite of that when considered by groups the outcome even more alarming! Higher participation was observed in the HW group, which were 27.8% (n=55), with the NHW group with 8.7% (n=16). Even though; majority of the respondents were highly educated, with small proportion with low educational background, it was expected that, the results would be encouraging, as the study was carried out in urban areas, where the standard of living is supposed to be higher. Most were of the opinion that cervical screening is necessary and would effect early detection of premalignant state, additionally will affect positively on the general health awareness, if regular check-ups, and oncologic screening is done<sup>18, 20</sup>. A large proportion of the respondents had inadequate knowledge of risks, consequences of *cervical* cancer similar to other studies in Nigeria, Tanzania, and in Uganda<sup>5, 16, 19</sup>. Whereas in contrast to findings by Tessaro et al in the United States in a study on nurse practitioners who knew most of the risk factors such as multiple sexual partners, history of HPV infection and sexual intercourse at an early age<sup>4,7,18,25,26</sup>. Though in this study specifics were not included, we were only interested about the gross knowledge of the disease, and its screening habit. Yet certain factors should be mentioned such as age at first sexual intercourse close to 85.95% (n=401) had their experiences before the age of 25 years and more so close to 82.26% (n=422) of the respondents have had more than one sexual partner. This sexual attitude has some link with the diseases in quote<sup>1, 9, 10, 16</sup>. As regards information, enlightenment, and guidelines for the screening of cervical cancer, and time interval for subsequent

screening, apart from the WHO's guide in this regard, there has been no clear cut strategies, or plans generally acceptable, and affordable to people in Nigeria<sup>6, 19,20,27</sup>. Rare scanty screening are been done most particularly during antenatal visit, or in few occasion accidentally on patient request, which is insignificant<sup>4, 6, 9</sup>. Even those service providers sometimes fails to know the importance of the screening, or enlightening the patients when due. The study shows that, majority of respondents are of the opinion that, cancer screening should be made free to all those who seek for such services and be made compulsory. Health and sex education, and information about screening of malignant and non-malignant states, or diseases should be taught, and be part of the educational curriculum. The respondents are of the opinion, that all sexually active women should deserve cervical cancer screenings. From all indication based on this study, it is obvious that; in Nigeria most of the general public and even health workers are not properly aware of the recommended pap smear screening interval<sup>6, 16</sup>, similarly in Uganda in a study done among hospital workers found that less than half of them had adequate knowledge regarding screening interval as found by Mutyaba et al<sup>19</sup>. Comparatively a larger proportion of Thai nurses could correctly identify the timing as reported by Nganwai et al<sup>8, 19</sup>, these results are a reflection of the fact there is no screening policy set by the state, or federal ministries of health. The same, with our local health centers even in the teaching hospitals<sup>5, 6, and 9</sup>. Similar to what is done in other centers and health institutions in the country too: our practice should be regarded as an opportunistic screening strategy<sup>6, 9</sup>. The Pap smear screening, HPV screening services are available in few places even the HPV vaccine is

reachable; and the test are carried out by doctors <sup>4</sup>.<sup>9</sup>. That of HPV screening just small number of respondents are aware, and may have been given a vaccine for HPV, and is familiar with the time interval for subsequent screening of the cervical cancer. In comparison, more than 90% of nurses in a study done among Canadian nurses knew that the vaccine should be given before girls become sexually active <sup>7,18,19,21</sup>. This could be explained by the fact that the HPV vaccine is still a new concept in most developing countries, including Nigeria and is not yet included in the Nigerian National Program on Immunization, though individually it is attainable in the market. The results obtained was very poor and could not be explained, considering the level of education of most respondents; such as the health workers , with diplomas and certificates in nursing, laboratory technology and medical degrees holders and those in the general public group with various level of education. The outcome may be due to our socio-educational orientation, government priorities on health issues, individual beliefs, socio-economic, cultural state of the populace, and most particularly about our attitude towards health and the health care providers in the country in general, as compared to those in a study in Thailand by Nganwai et al <sup>2,4</sup>, where the majority of respondents had bachelor's degrees whereby a higher proportions of nurses correctly identified causes, transmission, symptoms, treatment and prevention <sup>6,8,9</sup>. Radio/ television were the major source of information for many of the respondents. Other similar study down in Nigeria however, placed different health workers, medical doctors and medical literature as the most commonly mentioned sources of information about Pap tests, only a few cited the media in a study by Gharoro et al <sup>2, 6</sup>. Despite that, it still

reflects the inadequacy of the information given in our medical and nursing schools which has reflection on the orientation of our educational system and the role and attitude of the doctors who are in a better position of educating the masses. It also raises concern about the fact that; enough seminars, public enlightenment campaigns and continuing education sessions on health issues are not properly coordinated, or sufficiently in cooperated in our daily life. If we look closely to all the sources of information; there is no doubt that, the media has played a bigger role in increasing cancer awareness in the country in the past few years. Although over the years various short-lived campaigns about cancer had been embarked upon by politicians, women associations, and even state government, but these campaigns are mainly about breast cancer, less about other forms of medical conditions and cervical cancer, more so continuity of such program, and adequate monitoring, and financial sustainability in Nigeria are lacking <sup>6,8,9</sup>. The most important obstacles to these efforts are the poverty level of the general public, which makes it difficult in getting access to this media information. Furthermore, substantial number of the populace cannot afford daily newspapers and also lack of many basic infrastructures such as electricity provisions and access to television, internet and radio services are limited. Other aspect of the hindrance to low uptake cervical cancer screening and other medical screening is the shortage of health workers in most of these medical, health centre and hospital. Therefore; it is not surprising that, some are citing parents/family members and friends in the study as their source of information. Most information in the NHW came from the media, with little health workers input, while in the HW group most

information came from colleagues, interpersonal discussions, attendance of continuing medical education sessions at hospitals or seminars out of the hospital and other forums<sup>6,9</sup>. In contrast, 86% of the nurses in the study by Tessaro et al in the United States had attended a cancer education program in the last 5 years prior to the study<sup>7</sup>. The study had apparently depicted that, cervical cancer has not been given priority when it comes to arranging the CME sessions and or that attendance had been poor, less propaganda, and maybe not all health sector workers are invited to attend the sessions. Sometimes there maybe financial implications, which makes it difficult for more people to participate. When asked about their previous screening practices just about one tenth of the respondents had previous cervical screening done at least more than once 6.86% (n=14/513). In a similar studies a slightly higher trend of screening practices was observed by Mutyaba et al among female respondents in a study done in Uganda at a University teaching hospital where only 19% of the female respondents had had a Pap smear test despite the fact that the test was available and free at the hospital.<sup>5,6,8,11,13</sup>. A study conducted by Gharoro et al, in Nigeria, reported was similarly, where minority of Nigerian female health workers had a Pap test<sup>19</sup>. Contrarily; Nganwai et al in Thailand reported that, 56.4% of the nurses have had Pap smear test regularly and 86.5% intended to check regularly in the future<sup>19,23</sup>. Unfortunately; lack of symptoms, carelessness, fear of vaginal examination, lack of interest, test being unpleasant and not to be seen by another male, other than the husband.etc may have also contributed to the low uptake<sup>23, 28</sup>. Apparently, the study had shown the light that, the utilization of screening services is dependent on the individual's awareness of the

importance of cervical cancer screening, Therefore, more active intergovernmental role in financing the health sector, the reorganization of our health policies, health oriented educational curriculum, and as well as the ability of the health sector to make these services available and accessible cheaply will be a welcomed news. The study also highlighted, that the respondents lacked adequate knowledge of the cervical cancer screening, also noticeable, that their knowledge and awareness on the subject may be contradictory<sup>6, 7,9,19</sup>. The health, and socio-economic implications involved are not quite understood as well, may be because correct perception of individual own risk of development of cervical cancer is not properly emphasized in our health program<sup>3,5,19</sup>. Lastly, it is important that health educational programs, lectures should explain clearly to women the difference between precancerous lesions, and it's importance in terms of treatment and cure to that of invasive cervical cancer, and it's treatment options and prognosis<sup>1,3,6,14,16</sup>. More propaganda should be made in the rural areas, where most inhabitants are illiterate, economically underdeveloped.

Conclusion: Finally our findings are purely based on relatively highly educated class of the society, who are also economically stable, yet the outcome is poor, with this we assume that, the result may be worst in the lower income and less educated class. These results call for creation of health promotion and disease prevention policies as well as awareness campaigns and screening programs at all levels of the health sector. Integration of screening services into already existing programs, such as family planning and reproductive health services, would be an effective strategy in an already financially and human resource challenged health sector.

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