

# Comparative Assessment of Knowledge, Attitude and Practice of Cervical Cancer and its Screening among Clinical Students in Southern Nigeria

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Rebecca Ugochi Ibekwe

*Department of Community Medicine, Delta State University Teaching Hospital, Oghara, Delta State, Nigeria*

## ABSTRACT

### BACKGROUND

*Cancer of the cervix is one of the most common and preventable forms of cancer among women; yet it kills many women in developing countries of Africa and Asia. This study was carried out to assess the level of knowledge, attitude and practice regarding cervical cancer and its screening among female clinical nursing students in Southern Nigeria.*

### METHODOLOGY

*Comparative cross-sectional study was undertaken over a period of 7 months (April to November 2013). There were 100 female clinical nursing students in Delta State University Teaching Hospital (DELSUTH) and all were selected for the study. Simple random sampling technique was used to select 100 female clinical nursing students in University of Benin Teaching Hospital (UBTH) as controls. An interviewer administered questionnaire was used to collect data and analysis was by SPSS version 17.0.*

### RESULT

*The mean age of respondents in DELSUTH was 24.2±2.6 years, compared to 23.2±2.9 years for UBTH. 66% of respondents in DELSUTH compared to 59% in UBTH had at least good knowledge of cervical cancer and its screening. 86% in DELSUTH compared to 79% in UBTH had positive attitude, while 9% of respondents in DELSUTH compared to*

*7% in UBTH had done cervical cancer screening.*

### CONCLUSION

*The level of knowledge on cervical cancer and its screening was high, the attitude was good, but the uptake of the screening service was very poor. There is need to adopt urgent and drastic intervention strategies to save our women from unnecessary death.*

### KEYWORDS

*Comparative Assessment; Cervical cancer; Southern Nigeria.*

*Correspondence: Dr. R.U. Ibekwe  
e-mail: drbecky4flex@yahoo.com*

### INTRODUCTION

Cancer is a term used for malignant uncontrolled growth of cells and tissues. When it involves the cervix (the neck of the womb), it is referred to as cervical cancer.

Cervical cancer is one of the most common cancers affecting a woman's reproductive organ. Globally it is the third most common cancer among women but in Nigeria, it is the second most common cancer and a leading cause of death among middle aged women.<sup>1,2</sup> Cervical cancer has an estimated incidence rate of over 500,000 cases annually and 275,000 deaths, with over 80% being from developing countries<sup>3,4</sup>. In Nigeria, it has been estimated that 36.59 million women aged 15 years and above are at risk of developing

cervical cancer, with an incidence rate of 250/100,000 women<sup>3,5</sup>

Virtually all cases of cervical pre-cancer and cancer are associated with Human Papilloma Virus (HPV); but only about 12% of individuals with HPV go on to develop cervical pre-cancer and cancer, hence HPV infection is an important risk factor in the causation of cervical cancer but not an exclusive cause. In addition to HPV, other factors that impact progression from persistent HPV infection to cervical pre-cancer and cancer includes; early sexual debut, multiple sexual partners, multiparity, low socio-economic status, e.t.c. Other risk factors important in the causation may include; smoking, diet, physical inactivity, long standing use of oral contraceptives and presence of other sexually transmitted infections such as; trachoma, herpes simplex virus type II and human immunodeficiency virus.<sup>6,7</sup> With increase in the use of antiretroviral drugs there has been decline in mortality from HIV/AIDS; hence there is increase in the survival years of women with such infections. These have culminated in the increase in the number of women who have the pre-malignant lesion. The pre-malignant stage of the disease has a long transition period before it converts to cervical cancer. This window of opportunity is being harnessed by developed countries to reduce the incidence of cancer of cervix in these countries. This has not been the case in developing countries because of the absence of screening programme.<sup>8</sup> In developed countries there have been significant reduction in mortality arising from the disease through extensive population based cervical cancer screening programs. Cytological screening with papanicolaou smear (Pap smear) is the established method for cervical cancer screening worldwide, and more recently the Human Papilloma Virus-DNA (HPV-DNA) based testing is also used. The proportion of women screened by Pap smear test in developed countries is reported to vary from 68%-87% compared to 5% in developing countries.<sup>9,10</sup> The predominant reason for absence of cytology based cervical cancer

screening in developing countries is the staggering cost of infrastructure, equipment, laboratory and trained clinicians required for repeated cytological testing and interpretation. HPV-DNA testing on the other hand is expensive, and the cost is way beyond the resources of Low to middle income countries (LMIC). The choice method for cervical cancer screening is therefore a problem in LMIC; however a new technique based on visual inspection with 3-5% acetic acid (VIA) has been established as an effective alternative to cytology based screening. Besides being highly sensitive, VIA test is cheap and simple to be performed by other health workers even after a short period of training, in addition it does not require multiple visits on the part of the client.<sup>11,12</sup> Though Cervical cancer is one of the most common form of cancer among women, it is considered one of the most preventable<sup>13</sup> In spite of the availability of preventive measures, cervical cancer still kills many women in developing countries of Africa and Asia due to low availability, poor awareness and poor uptake of screening and preventable strategies.<sup>14</sup>

This poor uptake of cervical cancer screening has been attributed to ignorance, poverty, inaccessibility of the services and fear of having a positive result amongst others.<sup>15</sup> The study was therefore carried out to assess and compare the level of knowledge, attitude and practices regarding cervical cancer and its screening among female clinical undergraduates in two states in Niger-Delta region of Nigeria.

## METHODOLOGY

The study was carried out in Delta State University Teaching Hospital Oghara among the female clinical nursing students. Oghara is a peri-urban community in Ethiope West Local Government Area and is made up of five clans. It occupies a land mass of 1175km<sup>2</sup> within the tropical rain forest.<sup>16</sup> The study was also carried out among female clinical nursing students in University Benin Teaching Hospital (UBTH). The hospital is located on a

150-acre site along the Benin-Lagos express way with over 1,000 in-patient facility.<sup>17</sup>

Comparative cross-sectional study was undertaken and this was conducted over a period of 7 months (April to November, 2013). All female clinical nursing students in DELSUTH and UBTH, were included in the study. Formula for determining sample size when two populations/groups are involved was used to calculate the minimum sample size.  $N = n_1 + n_2 = 4(Z_{\alpha} + Z_{\beta})^2(P)(1-P)/d^{218}$ . Substituting for the formula above; a minimum sample size of 126 was obtained.

To make up for non-response cases; 10% of the calculated sample size was added which is  $(126 + 13) = 139$ . Therefore the minimum sample size for the study is 139; a total of 70 for the study group and 70 for the control group. However there are a total of 100 female clinical students in DELSUTH and all were selected for the study; simple random sampling technique was used to select 100 female clinical students from UBTH. Data was collected using semi-structured, self administered questionnaire. The questionnaires were collated, sorted out and analyzed using the statistical package, for scientific solution (SPSS) version 17.0 (Chicago II, USA). Frequency tables and cross tabulation was generated and the level of significance was set at 0.05. Knowledge of cervical cancer and screening was assessed using a set of 5 questions. A score of 0-1 was taken as poor knowledge; a score of 2-3 was taken as good knowledge, while a score of 4-5 was taken as excellent knowledge. Ethical clearance was obtained from the health research and ethical committee of DELSUTH and ethical committee of UBTH before commencement of the study. Informed consent was also obtained from the respondents before administering the questionnaire.

## RESULTS

A total of 200 questionnaires were administered, retrieved and analyzed. The mean age of respondents in DELSUTH was  $24.2 \pm 2.6$  years, compared to  $23.2 \pm 2.9$  years in

UBTH. This difference was statistically significant ( $P=0.007$ )

Thirty four percent (34.0%) of the respondents in DELSUTH were 500 level students, compared to 41.0% in UBTH. The difference is not statistically significant ( $P=0.206$ )

Ninety nine percent (99.0%) of respondents in DELSUTH are single, compared to 100.0% in UBTH. The difference is not statistically significant ( $P=1.001$ ) (Table 1)

Eighty percent (80.0%) of respondents in DELSUTH compared to 61.0% in UBTH claimed that their first source of awareness of cervical cancer and its screening was from school. The difference was not statistically significant. ( $P=0.064$ )

Sixty six percent (66.0%) of respondents in DELSUTH compared to 59.0% in UBTH had at least good level of knowledge on cervical cancer and its screening. This difference was not statistically significant. ( $P=1.18$ ) (Table 2)

Fourteen percent (14.0%) of the respondents in DELSUTH had negative attitude towards cervical cancer screening compared to 21.0% in UBTH. This difference was not statistically significant. ( $P=0.193$ )

Among the respondents who had negative attitude to cervical cancer screening; a higher proportion 5.0% in DELSUTH, compared to 2.0% in UBTH claimed that they did not go for screening because the procedure was embarrassing to them. This difference was not statistically significant. ( $P=0.273$ ) (TABLE 3)

Ninety one percent (91.0%) of respondents in DELSUTH had not done a cervical cancer screening, compared to 93.0% in UBTH. The observed difference was not statistically significant. ( $P=0.602$ )

Among the respondents who have not done cervical cancer screening, a higher proportion 46.0% in DELSUTH, compared to 48.0% in UBTH have not done one because of none

availability of the service. This difference was not statistically significant. (P=0.858) (Table 4).

**Table 1: Knowledge Attitude and Practice of Cervical Cancer.**

Variable	Socio-demographic Variables		Test Statistics	P-value
	DELSUTH n = 100 n = (%)	UBTH n = 100 n = (%)		
Age Group				
15 – 19	3 (3.0)	5 (5.0)		
20 – 24	52 (52.0)	72 (72.0)	X <sup>2</sup> = 13.68	0.003
25 – 29	43 (43.0)	19 (19.0)		
30 – 34	2 (2.0)	4 (4.0)		
Mean age	24.2 ± 2.6	23.2 ± 2.9	t-test = 2.72	0.007
Level of Study				
400 Level	34 (34.0)	38 (38.0)		
500 Level	34 (34.0)	41 (41.0)	X <sup>2</sup> = 3.16	0.206
600 Level	32 (32.0)	21 (21.0)		
Marital Status				
Single	99 (99.0)	100 (100.0)		1.001
Married	1 (1.0)	0 (0.0)	X <sup>2</sup> = 1.01	

**Table 2: Knowledge of Cervical Career and Screening**

Variable	DELSUTH n = 100 n (%)	UBTH n = 100 n (%)	Test Statistics	P-value
Source of Awareness				
School	80 (80.0)	61 (61.0)		
Health care Personnel	13 (13.0)	26 (26.0)		
TV/Radio	5 (5.0)	10 (10.0)	X <sup>2</sup> = 8.89	0.064
Friends/ Social media	1 (1.0)	2 (1.0)		
Others	1 (1.0)	1 (1.0)		
Knowledge of Cervical cancer				
Poor	4 (4.0)	6 (6.0)	X <sup>2</sup> = 1.18	0.555
Good	66 (66.0)	59 (59.0)		
Excellent	30 (30.0)	35 (35.0)		

**Table 3: Attitude towards Cervical Cancer Screening**

Variable	DELSUTH n = 100 n = (%)	UBTH n = 100 n = (%)	Test Statistics	P-value
Attitude towards Cx Cancer Screening				
Positive	86 (86.0)	79 (79.0)	X <sup>2</sup> = 1.70	0.193
Negative	14 (14.0)	21 (21.0)		
Reasons for Negative Attitude				
Fear of having Positive result	2 (2.0)	4 (4.0)	fischer's= 5.20	0.273
Busy	2 (2.0)	5 (5.0)		
I don't think I will have Any medical Problem	3 (3.0)	9 (9.0)		
Embarrassment	5 (5.0)	2 (2.0)		
Others	2 (2.0)	1 (1.0)		

**Table 4: Practice of Cervical Cancer Screening**

Variable	DELSUTH n = 100 n = (%)	UBTH n = 100 n = (%)	Test Statistics	P-value
Practice of Cx Cancer Screening				
Yes	9 (9.0)	7 (7.0)	X <sup>2</sup> = 0.27	0.602
No	91 (91.0)	93 (93.0)		
Reasons for Non-performance Of Cx Cancer Screening				
Fear of having a Positive test Result	10 (10.0)	7 (7.0)		
Cost of service Lack of money	30 (30.0)	30 (30.0)	X <sup>2</sup> = 1.93	0.858
Because of Shyness	3 (3.0)	3 (3.0)		
Not Aware of the Screening centre	2 (2.0)	5 (5.0)		
None availability of service	46 (46.0)	48 (48.0)		

## DISCUSSION

Cervical cancer is the most common genital cancer and the leading cause of death among the female population, especially in developing countries.<sup>19</sup>

Although cervical is preventable, it has remained the commonest cancer among Nigerian women because of non-utilization of

cervical cancer screening programmes<sup>20,21</sup>. The study population consisted of female students in a nursing school and at least 66% of the study participants in DELSUTH and 59% in UBTH had at least good knowledge of cervical cancer. Similarly a study carried out among female health workers in Ilorin, Nigeria<sup>22</sup> showed that the level of awareness on cervical cancer was 69.8% while in Nnewi, Nigeria it was 87.0%<sup>23</sup>. The high level of knowledge seen in the study is not surprising as the study participants expectedly had some knowledge on matters concerning health as they were undergoing training to become nurses. The studies in Ilorin and Nnewi involving female health workers were also high and this is not surprising as these are persons working in the health sector and as such ought to be highly knowledgeable on health matters. Similarly a study carried out among market women in Zaria, Nigeria showed that their awareness of cervical cancer was 66.9% this level of awareness was relatively high when compared to their level of education.<sup>20</sup> Although this seemingly high level of awareness has been attributed to the effect of community health outreach programs usually carried out among these market women, for instance a few weeks before the survey a group of American cancer experts visited the market on a health sensitization program.

On the contrary another study carried out among market women in Ibadan showed that only 19.7% were aware of cervical cancer and its screening. The Ibadan study seems to reflect the true level of awareness of a study population such as those involving market women who are mostly uneducated and without influence of health education and awareness creation programs.

A study carried out in Owerri, Nigeria among adult females found that the level of awareness to cervical cancer and its screening was 52.8%<sup>23</sup>. The study also revealed that most 31.3% of the respondents who are aware of screening got their information from the hospital health facility. On the contrary a study carried out in Ghana among

undergraduates showed that the level of awareness was 39.0%<sup>24</sup>. Findings from other studies have revealed that highest level of awareness are from studies using undergraduates and healthcare professionals while the lowest level came from studies using commercial sex workers and attendees.<sup>6,24,25</sup> Some studies have attributed the differences in level of awareness to educational studies.<sup>6,25</sup> This explanation is in keeping with the findings of the Ilorin study<sup>22</sup>, but this does not fully explain the findings of the study in Ghana<sup>26</sup> and Zaria, Nigeria<sup>27</sup>. The survey carried out in Ghana was among undergraduates, yet the level of awareness was low, 39.0%<sup>24</sup>. Whereas the Zaria study was among market women yet the level of awareness was recorded as (66.9%)<sup>20</sup>. Since the high level of awareness among the market women in the Zaria study was attributed to the regular health education programs and not necessarily their level of education. It therefore implies that sensitization, awareness creation and health education may be all that is required to increase the level of knowledge on health issues such as this. It should be noted, that the impact from these educational activities do not imply that the higher level of education have no relevance on the health status of patients.

The proportion of respondents who had done cervical cancer screening was 9.0% in keeping with the findings of studies in other developing countries which ranged from 0.3% and 8.8%<sup>6,24,25,28</sup>. Overall there was abysmal poor uptake of screening services irrespective of their level of education and awareness. This level of uptake of the screening for the disease is unsatisfactory and worrisome as it will make no significant impact on the prevalence of cervical cancer. This is because high level of uptake and wide coverage is required for any meaningful impact on the incidence of the disease.

Fear of having a positive result, cost and none availability of service were cited as the major reason for not doing the test in 7%-10%, 30%, 7%-9%, 46%-48%. Some of the reasons given

for not doing the test revealed the lack of understanding of the disease. Fear and anxiety over a bad result stems from poor understanding of the principle behind cervical screening, since if the disease is detected early it can be completely cured than for an individual to live in blissful ignorance and find out that the disease is present when it has advanced in its course in the individual and at a stage that treatment and cure are practically non-existent. Also reasons such as cost of service and lack of money further portray the Ignorance about the disease. This is because the cost of surgery, radiotherapy, blood transfusion and other ancillary services required for the management of the disease when the cancer has advanced is over a hundred times the cost of screening. However this situation can be reversed with continuous and intensified public enlightenment; highlighting the cost benefit of screening and letting the populace know that it is far cheaper to do a screening than attempt treatment of the disease. Also physicians should be encouraged to carry out opportunistic screening hence ensuring that any woman that visit their health facility/clinic and is within the “at risk” group is encouraged to go for a cervical cancer screening at least once a year.

## CONCLUSION

The level of knowledge on cervical cancer and its screening as found in the study was high, the attitude of the subjects was good but their practice/uptake of the screening service was very poor. There is need to create a policy that will make it compulsory for women within the “at risk” group carry out cervical cancer screening at least once a year, as something drastic needs to be done to save our women from unnecessary death.

In the interim physicians should utilize the opportunity of the visit of any woman to their health facility and ensure that they are screened for cervical cancer at least once a year.

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