



Knowledge and Screening Practices of Cervical Cancer among Pregnant Women Attending Antenatal Clinic in Tertiary Hospitals in Enugu, South-Eastern Nigeria

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

Introduction: The burden of cervical cancer is more in developing world where it is a major killer among reproductive age group. Available evidence suggests factors responsible for this escalating mortality among Nigerian women as lack of awareness and poor use of early detection measures.

Materials and Methods: This study examined the knowledge and screening practices of cervical cancer among women attending antenatal clinics in tertiary hospitals in Enugu. The study utilized descriptive cross sectional design. A sample size of 250 pregnant women was proportionately selected from each study setting and convenience sampling used to select respondents for the study. Data was collected through researcher's developed questionnaire. Descriptive statistics was used for the analysis of data collected and chi-square statistics was utilized to test the hypotheses at significance level of 0.05.

Results: There is poor knowledge of cervical cancer among pregnant women as only 8.1% knew that cervical cancer is caused by human papilloma virus and 39.5% identified pap smear as screening test. There is poor uptake of cervical cancer screening as only 2.8% had carried out screening test. Poor access to health education and invasion of patients' privacy was the major factors that impaired the utilization of cervical cancer screening. There was no significance

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relationship between knowledge and practice of cervical cancer screening ($P>0.24$) and also between level of education and cervical cancer screening practices ($P>0.14$).

Conclusion: It was recommended that health stakeholders should intensify health education to reawaken the women's consciousness on the importance of cervical cancer screening practices.

Keywords: Cervical cancer; screening practices; ante natal clinic; pregnant women; tertiary hospitals.

1. INTRODUCTION

The incidence of cervical cancer is increasing all over the world with the increase occurring in multiples in developing countries that hitherto had lower incidence. The increase is attributed to ignorance, life style changes and negative attitude of people towards preventive health, poor screening practices, low level of education of the populace and poor access to medical care [1]. While cancer is a global health issue, the cancer burden is felt more acutely in developing countries, where resources available for prevention, diagnosis, and treatment of cancer are limited. This is certainly the case in Nigeria, where this disease is causing untold devastation, and control measures are desperately needed [1,2]. In Nigeria, the National Cancer Control Programme was developed in 2008 with the view of reducing the morbidity and mortality associated with cancer and its socioeconomic impacts. Within the framework the Federal Ministry of Health (FMOH) established a cervical cancer control plan for screening and early detection of cervical cancer and human papilloma virus (HPV) vaccination for primary prevention in girls of 9–15 years [3]. The level of implementation of this plan is still debatable in Nigeria. There is dearth of experts and facilities for early detection of cancer in many secondary and even tertiary health institutions in Nigeria [3].

Cervical cancer is a chronic debilitating disease which continues to cause extreme distress and anxiety for patients, carers and their family, and poses challenging clinical problems to nurses. The problem associated with cervical cancer is not just limited to the women, the family as a whole is affected. The economic implication of being affected with cervical cancer is enormous because it diverts the economic resources meant for family upkeep and children's education, to managing cervical cancer which is expensive [4].

Nigeria is the most populous country in Africa with an estimated population above 170 million in 2014 [5] and with an estimated total population of women between 15-49 years about 40.43 million

who are at risk of developing cervical cancer. Currently literature indicated that every year, 9,922 women in Nigeria are diagnosed of cervical cancer and 8,030 die from the disease [6].

GLOBOCAN estimates that cervical cancer is the second commonest cancer in Nigerian women with an Age Standardized Incidence Rate (ASR) of 29.0 per 100,000 [7]. This is similar to rates quoted from Abuja and Ibadan cancer registries of 30.3 per 100,000 and 36.0 per 100,000 respectively.

Incidentally GLOBOCAN data relied on estimates from the population based registries which cover less than 5% of Nigeria's population [7]. Institution based reviews across the country suggest that cervical cancer is common. For instance, a large review carried out in Lagos and Ibadan (South West Nigeria) in 2011 showed that cervical cancer was second only to breast cancer as the commonest cancer in the region [8]. In University of Nigeria Teaching Hospital, the three most occurring cancer among patients in the hospital from January 2008 to December 2012 show that breast cancer account for 54.7%, prostate 30.5% and cervical cancer 14.8% of 1,502 patients diagnosed of these types of cancer [9]. The above results obviously would not be a true reflection of the people infected with cancer, most especially cervical cancer which is hidden.

Cervical cancer is attributed to several risk factors, among these factors include early marriage or early age of first sexual intercourse (coitarche), multiple male sexual partners, male sexual partners who themselves have had multiple sexual partners (high risk males), early age at first sexual intercourse with uncircumcised male, long term use of oral contraceptive pills [8]. These sexual risk factors favour the sexual transmission of a carcinogen Human Papilloma Virus (HPV), which is associated with nearly all cervical cancers [10,11]. The risk of developing cervical cancer is attributed to the presence of carcinogen due to Human Papilloma Virus (HPV) type 16 and 33. Thus cervical cancer is almost

unknown in virgins. A vaccine designed to prevent cervical cancer occurrence and other diseases caused by infection of HPVs was approved in the U.S. in June, 2006 [11]. Current vaccination programmes cover types 16 and 18, which are reported to prevent 66.2% of cervical cancers.

In developed countries such as United State of America, death rate from cervical cancer has dropped due to regular cervical screening and treatment that is available and accessible [8]. Conversely, in developing countries like Nigeria, only few women presented themselves early to the hospitals for screening of cervical cancer when cure could be achieved while majority seek health care when the condition can only be manage in a palliative manner [12]. About 10% of Nigerian women ever had cervical cancer screening in their lifetime [8]. This goes a long way to highlight the ignorance and information gap on the availability of screening and the preventable nature of cervical cancer. This is not appropriate as for early diagnosis and treatment programmes of any malignancy to be effective, the general public must be aware of the disease and its impact, presentation and potential treatments [13]. Therefore, this study sets to determine the knowledge and screening practices of cervical cancer among pregnant women attending antenatal clinics in tertiary hospitals in Enugu, eastern Nigeria.

2. MATERIALS AND METHODS

2.1 Study Area

This study was carried out in University of Nigeria Teaching Hospital (UNTH) Ituku-Ozalla and Enugu State University Teaching Hospital (ESUTH) Park-lane. UNTH is a famous tertiary hospital with different cadre of professionals. UNTH is designated as the centre of excellence for the cardiac surgery. It serves as a referral centre for states in the south eastern, north central and south-south regions of Nigeria. Enugu State University Teaching Hospital Park-lane Enugu is also a tertiary institution with different cadres of professionals. The hospital serves as referral centre for secondary health care facilities in Enugu State.

2.2 Study Design

The research design utilized for the study was a descriptive cross sectional survey.

2.3 Sampling Technique

The University of Nigeria Teaching Hospital (UNTH) and Enugu State University Teaching Hospital (ESUTH) are the only two tertiary hospitals that offered ante natal care and were both selected for the study. The average number of pregnant women that attended antenatal clinics per month was 214 and 150 for UNTH and ESUTH respectively. The estimated total population of the two tertiary health facilities for two months that was duration of the study was 728. The sample size for the study was determined using Taro Yamane's formula:

$$n = N/1+N (e)^2$$

Where n = sample size

N = Total population

e = constant (0.05)

n = 258

A proportionate number of respondents were selected from each of the selected hospitals for the study. A total of 152 and 106 pregnant women were selected from UNTH and ESUTH antenatal clinics respectively for the study. Purposive sampling was employed in selecting the respondents utilizing the inclusion criteria.

2.4 Inclusion / Exclusion Criteria

The inclusion criteria include pregnant women attending ante natal clinics, willingness to participate in the study, been emotional and physically stable and present as at the time of study while pregnant women who refused to participate and non-pregnant women who attend other clinics in the hospital were excluded from the study.

2.5 Instrument of Data Collection

The instrument used for data collection was the researcher developed semi structured questionnaire drawn strictly based on extensive literature search on the knowledge and practice of cervical cancer screening. The questionnaire elicits questions on demographic data of the respondents, knowledge, screening practices and factors influencing the practice of cervical cancer screening. The questionnaire was constructed in English language.

2.6 Method of Data Collection

Four research assistants who are nurse educators at the selected hospitals were recruited and trained on the purpose of the

study, method of selection, interpretation of questionnaire and collection of data. The distribution of the copies of questionnaire to the pregnant women in the two selected health care institutions was done on antenatal visit days of Mondays, Wednesdays and Fridays. The distribution and collection of the questionnaire lasted for eight consecutive weeks using the antenatal visit days in each of the hospitals. The questionnaire was Interviewer administered and was collected on the spot. The study duration span from April through may, 2015.

2.7 Validity of the Instrument

The face validity of the questionnaire was determined by the project supervisor and content validated by experts in oncology and nutritionist. Experts were requested to rate each item and overall instrument using a 4 point scale as follows: - very relevant, relevant, relevant with item revision and irrelevant. Items identified as irrelevant were dropped and those suggested for item revision were modified and reevaluated before inclusion.

2.8 Reliability of the Instrument

A group of twenty five pregnant women attending ante natal clinic at Mother of Christ specialist hospital, Enugu were recruited to complete the copies of the questionnaire. Data was analyzed for reliability co-efficient using Cronbach's alpha. The reliability co-efficient for the overall instrument was ascertained to be 0.86, signifying that the questionnaire had a high proportion of internal consistency.

2.9 Ethical Considerations

Prior to obtain ethical clearance, a letter was written to the research ethical committee of University of Nigeria Teaching Hospital, Enugu and Enugu State University Teaching Hospital, Parklane- Enugu with summary of the research protocol attached. The permission to carry out the study was granted from both two tertiary health institutions. Also permission was sought from the administrative heads of antenatal clinics and from the respondents before administering the questionnaire. They were also assured anonymous, voluntary participation and confidentiality of information given.

2.10 Method of Data Analysis

Completed data was checked and cleaned for errors on daily basis. Any correction needed was

effected before data entry into the computer. Data entry was done using IBM SPSS (Statistical Package for the Social Sciences) version 20. Data was double-entered to minimize errors. The socio-demographic distribution of participants was done by simple frequencies and presented in tables. Descriptive statistics was used to analyze the data while inferential statistics of chi-square was used to test the relationship between variables at significance level of 5%.

3. RESULTS

Results in Table 1 revealed that 240 (96%) were married. Majority 195 (78%) from monogamous family and few 7 (2.8%) had no formal education, while majority 166 (66.4%) obtained tertiary education. On the respondents occupation 14 (6.5%) were unemployed and 48 (19.2%) senior civil servants. In terms of parity, 62 (24.8%) had three children while 15 (6%) had four children.

Results in Table 2 revealed that majority of respondents 210 (84%) had heard of cervical cancer. The major source of information was television 174 (82.9%) while few 56 (26.7%) said from healthcare professionals. On the cause of cervical cancer, 137 (65.2%) have no idea on the cause of cervical cancer while few 17 (8.1%) attributed the cause to Human papilloma virus.

Table 3 showed that majority 123 (58.6%) agreed that Pap smear is cervical screening test. In terms of age of woman for presentation for cervical screening, 86 (41%) indicated 15-19 years followed by 81 (38.5%) agreed that 30-40 years. Most respondents 145 (69%) agreed that the test should be done every year. Most of the respondents 130 (61.9%) are not aware of any vaccine for prevention of cervical cancer and only 7 (2.8%) had undergone screening for cervical cancer.

Results revealed the major factors that hindered cervical screening are poor access to health education from health care providers 190 (76%), invasion of privacy 180 (60%) while 150 (60%) negative health workers attitude. Few 56 (22.4%) were of the opinion that long waiting time discouraged utilization of screening.

3.1 Test of Hypotheses

There is no significance relationship between level of knowledge of cervical cancer screening and the practice of cervical cancer screening among women attending antenatal clinic at tertiary hospitals in Enugu.

Table 1. Socio-demographic data

Characteristics	Option	Frequency	Percentage
Marital status	Single	7	2.8
	Married	240	96.0
	Never married	3	1.2
	Total	250	100
Family type	Monogamous	195	78.0
	Polygamous	55	22.0
	Total	250	100
Educational level	No formal education	7	2.8
	Primary School	22	8.8
	Secondary School	55	22.0
	Tertiary	166	66.4
	Total	250	100
Occupation	Not employed	14	6.5
	Self-employed trader	91	36.4
	Business women	83	33.2
	Junior civil servant	14	5.6
	Senior civil servant	48	19.2
	Total	250	100
Ethnic origin	Hausa	3	1.2
	Igbo	243	97.2
	Yoruba	4	1.6
	Total	250	100
Parity of respondents	0	62	24.8
	1	50	20.0
	2	61	24.4
	3	62	24.8
	4	15	6.0
	Total	250	100

Table 2. Respondents knowledge of cervical cancer

Characteristics	Option	Frequency	Percentage
Ever heard of cervical cancer	Yes	210	84.0
	No	40	16.0
	Total	250	100
Source of information *Multiple options	Radio	168	41.0
	Television	174	42.4
	Healthcare professional	56	13.7
	Friends	12	2.9
	Total	410	100
Cause of cervical cancer *Multiple options	Don't have an idea	137	33.4
	Bacteria	148	36.1
	Human papilloma virus	17	4.2
	Fungi	108	26.3
	Total	410	100

Since the significant value ($P.24$) of the Chi-square statistics is greater than 0.05 level of significance therefore, the null hypothesis was accepted. Therefore there is no significance relationship between knowledge and practice of cervical cancer screening.

3.1.1 Hypothesis two

There is no significance relationship between educational qualification of women attending antenatal clinic at tertiary hospital in Enugu and practice of cervical cancer screening. A

chi-square cross tabulation between educational levels and practice of cervical cancer screening among women attending antenatal clinic in tertiary hospitals in Enugu. The significant value ($P=.14$) of the chi-square statistic is greater than 0.05 level of significance, the null hypothesis was accepted. Therefore there is no significant relationship between educational level and practice of cervical cancer screening among women that attend antenatal clinic (ANC) at tertiary hospitals in Enugu.

4. DISCUSSION

The result of the study revealed that majority of pregnant women had heard of cervical cancer however their knowledge of cervical cancer is

poor. The findings shows that only 20.5% of respondents were aware of the ideal age for presentation for screening for a sexually active person and few 9.5% of respondents were aware of the interval of presentation for screening. Our findings are a variance with the screening guidelines that recommended that women aged < 21 years should not be screened regardless of the age of sexual initiation or other risk factors. The Pap test is recommended for all women between the ages of 21 and 65 years old [14]. They further stated that women of any age should not be screened annually by any screening method but be screened every 3 years and screening should stop for women aged > 65 years who have adequate screening history and not otherwise at high risk for cervical cancer.

Table 3. Knowledge of screening test for cervical cancer

Characteristics	Option	Frequency	Percentage
Knowledge of type of screening test that can detect cervical cancer *Multiple options	Pap smear	123.0	32.8
	VIA	15	4.0
	Mammography	117.0	31.2
	X-ray	34.0	9.1
	Ultrasound	86.0	22.9
	Total	375	100
Age of presentation for screening	11-20 years	86.0	42.0
	21-30 years	43.0	20.5
	31-40 years	81.0	38.6
	Total	210	100
Respondents opinion on how often woman should undergo Ca screening	Every year	145	69.0
	Every two years	31	14.8
	Every three years	20	9.5
	Four years and above	14	6.7
	Total	210	100
Awareness of vaccine availability	Yes	80.0	38.1
	No	130.0	61.9
	Total	210	100
Ever screened for cervical cancer	Yes	7	2.8
	No	243	97.2
	Total	250	100

Table 4. Factors influencing practice of cervical cancer screening

Variable	Yes		No		Total	%
	(%)	Freq	(%)	Freq		
Poor access to health education about cervical cancer screening	190	76	60	24	250	100
Health professional's negative attitude towards patients for screening	150	60	100	40	250	100
Invasion of patients' privacy from cervical cancer screening	180	72	70	28	250	100
Distance of cervical screening place	110	44	140	56	250	100
Long waiting time for cervical cancer screening	158	63.2	92	36.8	250	100

Table 5. Association between knowledge, educational levels and practice of cervical cancer screening

		Practice			X ²	P-value
		Yes	No	Total		
Knowledge	Yes	7	203	210	1.372	0.242
	No	0	40	40		
	Total	7	243	250		
Educational level	No formal education	0	7	7	5.479	.14
	Primary education	0	22	22		
	Secondary	4	51	55		
	Tertiary	3	163	166		
	Total	7	243	250		

Results revealed that few 39.5% know about Pap smear as the screening for detection of cervical cancer and 8.1% knew that cervical cancer is caused by human Papilloma virus, 38.1% knew of the availability of vaccine for cervical cancer. These findings are a variance to a reported study of nurses that majority understood that Pap smear could be used to detect precancerous state of cervical cancer [15]. Pap smear programmes are complex and costly to run and have failed to reach a significant proportion of women in developing countries where health systems and infrastructures are weak [15]. The most probable explanation of the low knowledge of cervical cancer screening among the pregnant woman can be attributed to the fact that most Nigerians are not conscious of preventive health and do not strive to know about things that may have both direct and indirect implication to their health. Also, the above findings could be attributed to the fact that most Nigerians do not see themselves vulnerable to certain health condition such as cancer or to be infected by such health problem [16]. The findings of this study is in tandem with the findings of where two third of the subjects did not know about Pap smear or screening test before [17]. The finding in this study is in contrast with the study where 90% of the respondents were aware of the causative organism of cervical cancer as HPV [18].

Result indicated that greater percentage of the respondents (90%) have heard about cervical cancer screening and their major source of information was the media (television 35.2%, and radio 32.4%) with the least frequency by health care professional 26.7% respectively. The findings are in contrast with the study where majority of source of information was from the health care professionals [19].

Results show that the practice of cervical cancer among the respondents is insignificant. The findings of the study revealed that only 2.8% of the 250 respondents had ever gone for cervical cancer screening. The finding is in consonant with the findings where despite their overt awareness of cervical cancer screening only 7.1% of the respondents had ever done cervical cancer screening [19]. The probable explanation to this is embedded in the fact that most African nations and underdeveloped countries do not access preventive health and would rather prefer to seek curative health. This could be the reason why most of them presented late to the hospital where solutions to their problems could not be found. Also most see themselves as not vulnerable to a particular health condition or believed that there are special people that are vulnerable to certain disease conditions.

Result revealed that poor access to health education is an important factor that leads to poor utilization of cervical cancer screening and this was the opinion of 76% of the respondents. This finding correlate with study which observed that not carrying out cervical cancer test among respondents was due to lack of awareness [20]. This finding is also in agreement with several studies that health education campaigns inform of radio jingles and from health professionals in developing countries have dramatically increased awareness of breast and cervical cancers in women at risk, and have led to increased rates of early diagnosis and treatment. Mortality from breast cancer is now reducing partly due to awareness and early detection measures [11].

Majority 72% of the respondents identified invasion of privacy as a factor that will discourage them from utilizing cervical cancer screening, this finding is in consonant with report

that stated that most common reason for non-uptake of cancer screening is women perceived the screening test as an invasion of their privacy [19]. Result indicated that financial constraint is among the major factors that hinders utilization of cervical cancer screening. This probable could be as a result of the high cost of medical treatment and lack of free cervical cancer screening. This finding is not surprising as in Nigeria, the out-of-pocket expenditure accounts for up to 70% of health financing in a country where it is estimated that 70.8% of the people live below the poverty line of less than US\$1 per day .Also, the national health insurance scheme, which is a viable leeway for people to access health services, covers only those working for the government and organised private sector with the majority of Nigerians uninsured [21].

5. CONCLUSION

5.1 Implication for Nursing

The findings of this study revealed that there is poor knowledge of cervical cancer screening and significantly low practice of cervical cancer screening among the respondents. These findings have remarkable implications for hospital management, the government and to the nurses in particular. The nurses and other health care stakeholders have significant role to play in the area of health education. This should be done to reawaken the women's consciousness on the importance of cervical cancer screening and the need for them to know about cervical cancer and cervical cancer screening. The nurses have a major role to play as the patient's advocate and one in a noble profession where life is immensely valued and ensure that life is protected. The nurse in collaboration with other members of the health team should canvass for the implementation of policies that will ensure that every woman of child bearing age is made to carry out a mandatory cervical cancer screening. The government should ensure that the cost of cervical cancer screening is highly subsidized or made free for these women of child bearing age and other sexually active women. The non-governmental organization should carryout massive and sustained free community screening for cervical cancer.

CONSENT

It is not applicable.

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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