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Impact of Health Education on Knowledge, Attitude and Practice of Cervical Cancer Screening Among Secondary School Teachers in Enugu State

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Abstract

A cross sectional, descriptive interventional study directed by four research questions and three hypotheses was used to determine the impact of health education on knowledge, attitude and practice of cervical cancer screening among secondary school teachers. Population was secondary school teachers in Enugu State. Sample size of 380 teachers in 14 schools in Enugu North Local Government Area was drawn as sample using multi-stage sampling technique. Instrument used was questionnaire. Data were presented in tables and analyzed using measures of central tendencies and percentages. Hypotheses were tested using chi-square. Findings revealed relative good knowledge, positive attitudes, poor practice and significant impact of health education on their knowledge, attitude and practice. Recommendations were made as well as suggestions for further studies.

Keywords: Health education; Knowledge; Attitude; Practice; Cervical cancer screening; Teachers

Introduction

Nigeria has a population of 40.43 million women aged 15 years and older who are at risk of developing cervical cancer, every year 9922 women are diagnosed with cervical cancer and 8030 die from the disease [1]. Cervical cancer ranks as the 2nd most frequent cancer among women in Nigeria, the 2nd most frequent cancer among women between 15 and 44 years of age. About 23.7% of women in the general population are estimated to harbor cervical HPV infection at a given time, and 70% of invasive cervical cancer cases are attributed to HPVs 16 or 18 [2]. Cervical cancer is thus a major public health problem globally but especially in developing countries like Nigeria where over 25000 new cases of cervical are expected annually [3]. Unlike many cancers, cervical cancer can be prevented primarily through preventing HPV infection which is more challenging than most other sexually transmitted infections as HPV infected women are generally asymptomatic [3]. Fortunately, secondary prevention involves a relatively cheap cervical cancer screening using a test called a Pap smear which prevents cervical cancer morbidity and mortality through early detection and treatment. Cervical screening (pap's smear test) remains the most effective tool for the detection of pre-invasive stages of cervical cancer giving opportunity for prompt and effective treatment before the emergence of the invasive disease.

However, this important tool is underdeveloped and underutilized in Nigeria [4]. Many factors are implicated including lack of knowledge/ignorance, negative attitudes, cost of services, fear of the procedure and problem with the facilities and logistics for the testing.

In Enugu where the researcher resides, there are three centers offering cervical cancer screening services at affordable cost. These are among others Medical Women Association Centre at Abakaliki Road and UNTH Ituku-Ozara. These centers are not utilized adequately as statistics shows that only about four hundred (400) women on average come for screening yearly. Since, health education has proved to be an effective intervention in assisting people to take positive actions to achieve health; the researcher wants to find out the impact of health education on the knowledge, attitude and practice of cervical cancer screening among the secondary school teachers in Enugu State.

Research Questions

a) What do the secondary school teachers in Enugu State know about cervical cancer screening?

b) What are their attitudes towards cervical cancer screening?

c) To what extent do they practice cervical cancer screening?

d) What is the impact of health education on their knowledge attitude and practice of cervical cancer screening?

Research Hypotheses

a) There is no significant impact of health education on the knowledge of cervical cancer screening among the secondary school teachers in Enugu State.

b) There is no significant impact of health education on the attitude of secondary school teachers in Enugu State.

c) There is no significant impact of health education on the practice of cervical cancer screening among secondary school teachers in Enugu State.

Significance of the Study

The study will reveal any gap in the knowledge of cervical cancer screening among the secondary school teachers in Enugu State, their attitude whether positive or negative and the extent of their practice of cervical cancer screening. The study will also reveal the impact of health education on their knowledge, attitude and practice of cervical cancer screening. The findings therefore will help the researcher and the general public especially the health workers to appreciate where the problem related to the underutilization of cervical cancer screening services lie i.e. is it on knowledge, attitude or the practice. The findings will also be very beneficial to and reflective on the students, since are involved in guidance and counseling, sex education including inculcating early healthful habits

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to their students. This will mean reduction in both the incidence and mortality of cervical cancer.

Theoretical Framework

The theoretical basis for this study is the knowledge, attitude and practice (K.A.P.) model of health education. The K.A.P model is based on the assumption that knowledge precedes attitude and that both knowledge and attitude would both predict and precede behavior or practice [5].

I.e. knowledge---------- Attitude---------- Practice

This means that if the knowledge of cervical cancer screening is increased among secondary school teachers in Enugu State, it is believed that it will positively influence their attitude towards cervical cancer screening; and this positive attitude will positively influence their practice of cervical cancer screening. The K.A.P. thus suggests that the right information will influence attitudes and change behavior or practice. This has been one of the basic assumptions for health education even though critiques suggest that the relationship between knowledge, attitude and practice is more complex.

Health Education is defined as any combination of learning experiences designed to facilitate voluntary actions conducive to health [6]. Health education is a carefully planned method to influence and or change the attitude and behavior of individuals and communities by increasing their knowledge and understanding of health and diseases [5]. It is described as a concept, discipline, course of study, approach or method by which right health information is made available to people and simultaneously stimulating positive health attitudes and practices in them to promote personal and community health [7].

In a study to determine the attitude and beliefs about cervical smear testing in ever-married Jordanian women, using 760 women attending obstetric & gynecological clinics in Irbid, Jordan, it was discovered that knowledge of cervical cancer and the pap smear test was inadequate in less educated and older patients. Of the 109 women who had previously had the test, 104 (95.4%) had opportunistic testing. Major barriers to the testing include inadequate knowledge about the test and fear of having a bad result [8]. In reviewing the burden of cervical cancer in South Africa, it was discovered that it remains the most common cancer among the South African women particularly women with least access to cervical cancer screening [9]. It was also illustrated that cervical cancer screening offers unique opportunities for prevention at both primary and secondary levels. In an investigation of association between partner violence and inadequate cervical cancer screening among mid-aged Australian women, a negative relationship between cervical cancer screening and partner violence was confirmed, with a suggestion that a good access to physician of choice appears to significantly decrease the negative relationship [10]. It was also noted that known barriers to screening included education, income management and chronic conditions.

Method

Research design

This was a cross sectional, descriptive intervention study. Pre-intervention questionnaires were given to the sample of the study group to ascertain their level of knowledge of, attitude towards and practice of cervical cancer screening. The same group was then health educated on the concept of cervical cancer and cervical cancer screening. After a time interval six weeks, post intervention questionnaires were administered again to re-ascertain their knowledge, attitude and practice of cervical cancer screening in order to determine the impact of the health education.

Area of study

The area of study is Enugu North Local Government Area of Enugu state. It is one of the 17 local governments of the state.

Study participants (population of study)

The study population consisted of the secondary school teachers in Enugu State.

Sample and sampling technique

The sample for the study was drawn using multistage sampling technique. Enugu State has 287 public schools and for the purpose of this study, Enugu State was first classified into six educational zones (namely:Enugu zone, Udi zone, Agbani zone, Awgu zone,Nsukka zone and Ubollo-afor zone). Enugu zone was sampled out using simple random sampling method. The Enugu educational zone was further classified into three Local Goverments namely Enugu East, Enugu North and Isi-Uzo, and Enugu North was randomly selected for the study. There are fourteen (14) secondary schools in the local government having 595 teachers. Finally, using proportionate stratified random sampling on the basis of gender; equal numbers of female teachers were selected from each of the fourteen (14) schools under study giving 380 subjects.

Instrument for data collection

The instrument for collecting data was self-administered questionnaire composed of structured questions. It has two sections, section A for demographic data and section B for items on knowledge, attitude and practice of cervical cancer and its screening test.

Method of data analysis

The data were presented in tables and analyzed using measures of central tendencies, percentages and chi-squares. The statistical software SPSS was used to calculate the percentages and the chi-squares.

Result

The data were analyzed using percentages and chi-squares, and presented in tables as related to the research questions.

Knowledge of cervical cancer

Majority of the respondents (52%) have heard about cervical cancer and their most important sources are hospital, Radio/TV and seminar (57%, 21%, 15%). Out of the five (5) statements about cervical cancer, majority of the respondents (95%, 77%, 84%, 75%) indicated correctly four except for the mortality burden of the cervical cancer where only 43% got right. Majority indicated correctly six risk factors out of the seven stated. This shows they have a relatively good knowledge of cervical cancer pre-intervention. However, the percentage of those who heard about the concept increased (85.8%) post intervention (health education) and increased percentage (97.3, 89.8, 52.4, 89.3 and 76.2) of the respondents indicated all the 5 statements about cervical cancer and the risk factors correctly showing that health education improved their knowledge of cervical cancer. The chi-squares and the p-values were calculated as shown in the table and most p-values were ≤ 0.05 which is significant (Table 1).

Knowledge of cervical cancer screening

The data in the Table 2 indicates that about 41% of the respondents

Items	Pre		Post		X^2	P-Value
	Number	%	Number	%		
Heard about cervical cancer						
Yes	197	52	263	85.8	15.0	P ≤ 0.05
No	182	48	43	14.2		
Total	**379**	**100**	**306**	**100**		
Source of information						
Hospital	171	56.6	83	31.8		
Seminar	49	15.1	122	46.7		
Journal	23	7.1	11	4.2		
Radio/ TV	69	21.2	29	11.1	13.043	P ≤ 0.05
Others	13	4.0	16	6.1		

Table 1: Knowledge of cervical cancer.

Total	**325**	**100**	**261**	**100**		
Statements about cervical cancer:	True	False	True	False		
Cancer of neck of uterus	320 (94.7)	18 (5.3)	293(97.3)	8(2.6)	2.90	ns
Commonest cancer in women	237(76.9)	71(23.1)	273(89.8)	31(10.2)	18.2	P ≤ 0.05
Kills a woman every 2 minutes	110(42.6)	148(57.4)	143(52.4)	129(47.6)	5.24	P ≤ 0.05
Early diagnoses increase survival	266(84.2)	51(15.8)	260(89.3)	31(10.7)	3.43	ns
Risk factors include:						
Human Papilloma Virus	214(90.7)	22(9.3)	266(95)	14(5)	3.67	ns
Initiation of sex before 18yrs	184(73.3)	67(17.6)	232(83.5)	46(16.5)	8.04	P ≤ 0.05
Multiple sex partners	231(91.5)	21(8.5)	272(95.6)	12(4.4)	3.65	ns
Multiparty	91(57.6)	67(42.4)	168(63.6)	96(36.4)	1.52	ns
Low socioeconomic status	60(26.1)	170(73.9)	223(80.8)	53(19.2)	3.43	ns
Smoking	122(52.1)	112(47.9)	191(68.7)	87(31.3)	22.84	P ≤ 0.05
Previous history of STD	124(61.4)	78(38.6)	175(63.2)	102(36.8)	28.3	P ≤ 0.05
No symptom in early stages	155(75.2)	51(24.8)	221(76.2)	69(23.8)	0.061	ns

Table 2: Knowledge of cervical cancer.

have heard about cervical cancer screening pre-intervention. The important sources of information include radio/ TV, hospital and seminar (39%, 34%, 24% respectively).

Also for the seven statements about cervical cancer screening, majority of the respondents (68%, 85%, 97%, 87%, 72%, 75% and 95%) indicated correctly the truthfulness of all the statements. All these data show that the respondents have relative good knowledge of cervical cancer screening. However, post- intervention increased percentage (72.9%) of the respondents heard about it. Also increased percentages (82, 92, 98, 91, 88, 74 and 99.7%) indicated correctly the statements about cervical cancer screening showing an improved knowledge with health education.

To determine the attitude of the respondents, they were required to agree or disagree to ten (10) statements of opinion in the item 10 of the questionnaire. Their responses are found in this Table 3.

Statements of opinion on cervical cancer screening

The data in the Table 3 shows that a good number of the respondents (73%, 80%, 69%, 79%, 51%, 87% and 64%) correctly indicated agreement or disagreement to 7 out of 10 statements of opinion in the item 10 of questionnaire, with only 47% and 45% correctly agreeing or disagreeing with the remaining two statements. This implies a positive attitude of the majority of the respondents towards cervical cancer screening prior to health education. There is however, improved attitude positively after health education as shown by increased percentages (78, 94, 79, 86, 79, 88, and 75) that agrees or disagrees correctly with this statement. The chi-squares were calculated as shown in the table and p-values are all P≤0.05 which indicates significant impact of health education on attitude of these respondents.

Three question items 7, 8, 9 in the questionnaire were used to ascertain practice of cervical cancer screening. The responses to these items are shown in this Table 4.

Practice of cervical cancer screening

The data in the Table 4 show that, pre-intervention greater percentage of the respondents (87%) have never gone for the cervical cancer screening. Out of the 42 respondents (12.9%) that have gone for the test, 50% have done the test just once presumably on opportunistic basis while only 15 (about 36%) go for the test regularly on a yearly basis. The most important reasons or non-participation include no awareness/ ignorance (25%), and no symptom (17%).

These imply that the majority of the respondents do not practice cervical cancer screening.

Post intervention however, 93% of respondents indicated that they have gone for the test as against 12.9% (pre intervention). About 81% of these teachers have done the test just once showing that they may have been motivated by what they heard and learned. Also, reduced number blamed ignorance /no awareness (14%), while increased number stated that they take care on how they live (57%) as a reason for non-participation. These data therefore show that health education as the intervention in this study has great impact on the practice of cervical cancer screening among the study group.

Items	Pre		Post		X^2	P-Value
	Number	%	Number	%		
Heard about cervical cancer screening						
Yes	154	41.1	223	72.9		
No	221	58.9	83	27.1	16.4	P ≤ 0.05
Total	**375**	**100**	**306**	**100**		
Source of information						
Hospital	74	33.5	27	12.1		
Seminar	53	24.0	111	49.8		
Journal	8	3.6	9	4.0		
Radio /TV	86	38.9	76	34.1	12.64	P ≤ 0.05
Total	**221**	**100**	**223**	**100**		
Statements about cervical cancer screening						
Relatively cheap test that allows for identification	176(67.7)	84(32.3)	240(81.5)	54(18.5)	13.82	P ≤ 0.05
Painless investigation in which cervix is visualized	1.89(84.8)	34(15.2)	253(92.3)	21(7.7)	7.18	P ≤ 0.05
Can stop cancer from developing	307(97.3)	8(2.7)	287(97.8)	6(2.2)	0.163	P > 0.05
Age group for testing ranges from 18-64yrs	256(87.4)	37(9.7)	264(90.7)	27(9.3)	1.68	P > 0.05
Screening interval in Nigeria is 1-3 yrs	157(71.7)	62(28.3)	232(87.6)	33(12.4)	19.2	P ≤ 0.05
Test is done in the middle of menstrual cycle	155(75.2)	51(24.8)	195(73.6)	70(26.4)	0.167	P > 0.05
Test is done by a doctor or trained nurse	222(94.9)	12(5.1)	291(99.7)	1(0.3)	12.3	P ≤ 0.05

Table 3: Knowledge of cervical cancer screening.

Statements	Pre		Post		X^2	P-Value
	Number	%	Number	%		
List interest I the test						
SA	48	14.6	38	12.5		
A	40	12.2	28	9.2		
D	130	39.6	141	46.5	18.2	P ≤ 0.05
SD	110	33.5	96	31.7		
Total	**328**	**100**	**303**	**100**		
Go to test with adequate knowledge or referral by a doctor						
SA	193	51.2	178	58.7		
A	111	29.4	107	35.3		
D	56	14.7	16	5.3		P ≤ 0.05
SD	17	4.5	2	0.7	16.4	
Total	**377**	**100**	**303**	**100**		
Not susceptible to cervical cancer						
SA	98	28.7	73	24		
A	84	24.6	132	43.4		
D	101	29.6	80	26.3	34.5	P ≤ 0.05
SD	58	17.0	19	6.3		
Total	**341**	**100**	**304**	**100**		
Afraid of the result						
SA	40	11.1	22	7.2		
A	70	19.5	41	13.5		
D	193	53.8	209	68.8		
SD	56	15.6	32	10.5	15.5	P ≤ 0.05
Total	**359**	**100**	**304**	**100**		
Need the consent of husband						

SA	53	14.8	83	28.6		
A	111	30.9	74	25.5		
D	122	34.0	84	29.0		
SD	73	20.3	49	16.9	18.6	P ≤ 0.05
Total	**359**	**100**	**290**	**100**		
Cost is unaffordable						
SA	30	9.3	24	8.3		
A	39	12.1	17	5.9		
D	169	51.2	187	64.7	13.83	P ≤ 0.05
SD	88	27.3	61	21.1		
Total	**322**	**100**	**289**	**100**		
Symptom is the only reason for the test						
SA						
A	90	27.7	44	15.0		
D	88	27.1	18	6.1		
SD	71	21.8	104	35.4		
	76	23.4	128	43.5	48.65	P ≤ 0.05
Total	**325**	**100**	**294**	**100**		
No knowledge of where to go for test						
SA	82	25.8	27	9.5		
A	73	23.0	32	11.3		
D	68	21.4	128	45.1		
SD	95	29.9	97	34.2	60.42	P ≤ 0.05
Total	**318**	**100**	**284**	**100**		
Don't believe in outcome						
SA	19	5.5	24	8.0		
A	27	7.8	13	4.3		
D	275	50.3	109	36.3		
SD	127	36.5	154	51.3	19.97	P ≤ 0.05
Total	**348**	**100**	**300**	**100**		
Procedure is painful						
SA	42	11.6	39	13.2		
A	90	24.8	36	12.2		
D	140	38.6	133	44.9		
SD	91	25.1	88	29.7	16.84	P ≤ 0.05
Total	**363**	**100**	**296**	**100**		

Table 4: Statements of opinion on cervical cancer screening.

Test of Hypothesis

Hypothesis 1

There is no significant impact of health education on the knowledge of cervical cancer screening among secondary school teachers in Enugu State.

The P-values against most statements intended to ascertain knowledge (4 out of 7) were ≤ 0.05, thus is significant, with an observed improved knowledge post intervention. Therefore, the hypothesis (H_1) is rejected.

Hypothesis 2

There is no significant impact of health education on the attitude of secondary school teachers towards cervical cancer screening.

The P-values against all the statement of opinions used to determine attitude were all ≤ 0.05 which is significant for the observed improved positive attitude post intervention. The hypothesis is therefore rejected.

Hypothesis 3

There is no significant impact of health education on their practice of cervical cancer screening.

The P-value for the observations on practice was ≤ 0.05 which is significant for there was increased practice of cervical cancer screening among the group, thus the hypothesis is therefore rejected.

Discussion

The findings revealed that secondary school teachers in Enugu State have relative good knowledge of cervical cancer screening. This can be appreciated from the data in Table 3 which showed that although 41% of the respondents have heard about cervical cancer screening, about 68%, 85%, 97%, 87%, 72%, 75% and 95% respectively identified all the correct statements about cervical cancer screening prior to the health education. This finding may be related to the educational status of these secondary school teachers, for according to a study among women attending antenatal clinic[8] knowledge of cervical cancer and cervical cancer screening was inadequate in less educated patients. Majority of these teachers have positive attitudes towards cervical cancer screening. This is evident in data of Table 4 which showed that a greater percentage of them (73%, 80%, 69%, 54%, 79%, 51%, 87% and 64%) correctly indicated agreement or disagreement to 8 out of 10 statements of opinion in the instrument. This finding could be related to their relative good knowledge of the concept under study for according to KAP model of health education, knowledge precedes attitude [5].

The finding is also in line with a study among ever – married Jordanian women which showed negative attitude with inadequate knowledge in less educated patients [8].

The findings of the study further revealed a poor practice as majority of the respondents (87%) have never gone for cervical cancer screening pre intervention as shown in Table 5 of chapter four. Out of 42 respondents (12.9%) that have gone for the test, 64% have done it presumably on opportunistic basis.

This study is in line with a study where only 109 (14%) of the participants had previously had the test and 92% of these had opportunistic testing. The finding also agrees to an observation that a significant proportion of our screening is on opportunistic basis rather than systematic [8,11].

It is however not surprising, that with the good knowledge and positive attitudes of majority of the participants, their practice of testing is good post intervention. The findings therefore is correlates to WHO's observation that lack of knowledge /ignorance among women about the screening is the major contributory factor. The good practice of cervical cancer screening among these teachers with their relative good knowledge and positive attitude despite few health facilities that offer the screening services as to compare with other health services readily offered in most health facilities e.g. antenatal services could be linked to their educational status. This reason contrasts an observation that blames the location of facilities and logistics for the cervical screening services in the hospital setting a place where one goes when sick, and the shortage of the hospitals offering screening services as reasons for non-practice.

On the impact of health education on the level of knowledge, attitude and practice of cervical cancer screening among the secondary school teachers in Enugu State, the findings showed that health education had significant impact on the knowledge, attitude and practice of cervical screening among these teachers. The finding is in line with the KAP model of health education that assumes that if knowledge of cervical cancer screening is increased among these participants, it will positively influence their attitude and change their practice of screening.

Conclusion

On the basis of the findings, the researcher concludes that there is significant impact of health education on the knowledge, attitude and practice of cervical cancer screening among secondary school teachers in Enugu state. Although the positive impact could easily be related to

Items	Pre		Post		X^2	P-Value
	Number	%	Number	%		
Ever gone for cervical cancer screening						
Yes	42	12.9	279	93.0		
No	284	87.1	21	7	5.975	P ≤ 0.05
Total	**326**	**100**	**300**	**100**		
Frequency of screening						
Just once	21	50.0	226	81		
Yearly	15	35.7	53	19	20.01	P ≤ 0.05
Every 2-5 years	6	14.3	__	__		
Total	**42**	**100**	**21**	**100**		
Reasons for non-participation in screening:						
Busy schedule	5	1.3	-	-		
No symptom	65	17.1	-	-		
Take care how I live	4	1.1	12	57.1		
Ignorance	29	7.6	-	-		
Hereditary	5	1.3	-	-		
No awareness	66	17.4	3	14.3		
No reason	101	26.6	6	28.6		
Not yet prepared	10	2.6	-	-		
Total		**100**		**100**		

Table 5: Practice of cervical cancer screening.

the educational status of the teachers, the value of the effort in health educating people to change attitudes and behaviors detrimental to health is x-rayed. Health education therefore should be continued and intensified towards achieving, maintaining and promoting personal and community health among population.

References

1. Sherrin J, Herdman C, Elias C (2001) Cervical cancer in the developing countries. West Journal of Medicine. 175: 231-233.
2. Encarta's Library 2009.
3. Adefuye PO (2006) Knowledge and practice of cervical cancer screening among female professional health workers in sub-urban district of Nigeria. Nigerian Medical Practitioner 50:19-22.
4. Tebeu PM (2008) The attitude and knowledge of cervical cancer by Cameroonian women: A clinical survey conducted in Maroua. International Journal of Gynecol Cancer 18:761-767.
5. Nganwai P (2007) Knowledge, attitude and practice vis-à-vis cervical cancer among registered nurses at the faculty of medicine Khon Kaen University, Thailand. Asian Pacific Journal of Cancer Prevention 8:15-18.
6. Denny L (2008) Prevention of cervical cancer in South Africa. Reproductive Health Matters. 16:18-31.
7. Amarin ZO, Badria LF, Obeidat BR (2008) Attitude and beliefs about cervical smear testing in ever-married Jordanian women. East Mediterranean Health Journal 14: 389-397.
8. Loxton D, Powers J, Schofield M, Hussain R, Hosking S (2009) Inadequate cervical cancer screening among mid-aged Australian women who have experienced partner violence. Preventive Medicine 48: 184-188.
9. Clogg LX (2009) Impact of socioeconomic status on cancer incidence and stage at diagnosis: Selected findings from surveillance, epidemiology and end result National longitudinal mortality study. Cancer Causes Control 20: 417-435.
10. Akinsola HA (2005) Research methods in medical & nursing practice. Ibadan: College Press & Publishers Ltd.
11. Akinsola HA (2006) A-Z of community health in medical, nursing and health education practice. Ibadan: College Press & Publishers Ltd.