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Influence of Age and Level of Education on Knowledge of correct procedure in performing Self Breast Examination among Secondary School Teachers in Enugu State

Ngozika Karen Enemuo
Department of Health and physical Education
University of Nigeria, Nsukka
08067160662
gozika78@gmail.com

Stella Uzoamaka Ugwu
Department of Health and physical Education
University of Nigeria, Nsukka

Abstract
This study examined the influence of age and level of education on knowledge of correct procedure in performing Self Breast Examination (SBE) among female secondary school teacher in Enugu State. Descriptive survey research design was used for the study. The population comprised 1,500 female secondary school teachers in public secondary schools in Enugu Education zone, from which a sample of 1050 teachers was drawn using a multi-stage sampling procedure. The instrument used to collect data was researcher structured questionnaire titled knowledge of Self Breast Examination Questionnaire (KSBEQ). The reliability of the instrument was tested using Spearman Ranking Order and reliability coefficient of 0.96 was established. Three objectives with corresponding research questions and two hypotheses guided the study. Analysis was by the use of SPSS version 22. Frequencies and percentages were used to answer the research questions while Chi-square (χ^2) tested at 0.5 level of significant and at appropriate degrees of freedom was used to test the null hypotheses. The finding of the study revealed that the female teachers in Enugu metropolis have a moderate knowledge of correct procedure in performing Self Breast Examination. The study reveals that respondents with higher level of education (B. sc) had the highest number of respondent with high level of knowledge on correct procedures in performing SBE(196 respondent, 54.1%) and age had significant influence on knowledge of correct procedure in performing SBE among female teachers in Enugu Education zone. Respondent with age 26-35years had the highest number of respondent with high level of knowledge on correct procedures in performing SBE (37.9%), followed by age 36-45year which had (36.8%). Hence it was recommended among others that public enlightenment campaign should be intensified among female secondary school teachers on basic knowledge of SBE.
Keywords: Correct procedure in performing Self Breast Examination, Age and level of education

Introduction

Breast cancer is a public health issue of serious concern all over the world particularly in developing countries. It is an important public health problem with its associated high morbidity and mortality rate. According to Adibi, Golshahi, Sirus, and Kazemi (2015), Breast cancer is the most prevalent cancer and a major health burden in women worldwide. Current reports indicate that cancer of the breast is the commonest malignancy in females affecting more than a million annually. Cancer is the leading cause of death in developed countries and the second leading cause of death in developing countries (WHO 2013). Feyzabadi , Emami and Mehrolhassani 2015 noted that in developing countries breast cancer incidence and mortality rate are on the increase. Its prevalence in developing countries, where breast cancer risk has historically been low when compared with industrialized countries is due to the growing trend in adoption of lifestyles that predispose people to cancer attacks, namely, smoking, physical inactivity and westernized lifestyles. These lifestyles are ill-defined surrogates for changes in factors such as childbearing practices, dietary habits and exposure to exogenous estrogens. In so doing, people move to the range close in profile to that of women in industrialized countries. In Nigeria, breast cancer incidence is on the increase and has become the most common malignancy and the second principal cause of death among Nigerian women (Agboola, Deji-Agboola, Oritogun, Musa, Oyebadejo and Ayoade, 2016).

Breast cancer can be defined as a cancerous growth that inhabits the tissues in the breast. This type of cancer grows in the cells in the breast region in an abnormal and uncontrolled cell division. It is malignant growth or tumour caused by an uncontrolled or excessive growth of breast cells formed from the inner lining of milk duct

or the lobules that supply the ducts with milk (Bouton, Nodora & Hsu, 2016). The female breast is a source of comfort and nourishment for babies; hence it ensures the survival of future generations through breast feeding, which is the major function of the organ. It is the ultimate symbol of beauty, femininity and special significance. However, like other parts of human body, the breast is subject to one of the world's deadliest killer disease of mankind, known as cancer. World Health Organization (WHO, 2013) simply defined cancer as a disease which is caused by excessive and uncontrolled growth of abnormal cells, which invades and destroys other tissues. This results in a harmful tumour which affects other tissues in the body. Jafari, Rafiei, Nassehi, Soleimani, Arab, and Noormohammadi, (2015) noted that Medicine cannot cure all diseases, cancer is not a singular disease; it is a group of more than 100 different and distinct genomic diseases that share some well-defined characteristics such as uncontrolled multiplication of abnormal cells and the refusal or inability of these cells to submit to the normal controls of the body. Breast cancer is a complex disease for which a single and absolute cause has not been determined. Hence, Motilewa, Ekanem, and Ihesie (2015) suggested early detection in order to protect, defend and prevent breast cancer. Thus, it is essential to inform the general public that breast cancer is curable if detected early. The first noticeable symptom is a lump found in the breast tissue. Such a lump is very different from the rest of the breast tissue. Early detection is one the surest means of cancer prevention; this involves adoption of screening approach which is Self Breast Examination (SBE) (Sharma, Ganguly, Nagda, and Kamaraju, 2013).

Self breast examination (SBE) is a process by which women are encouraged to periodically examine their breasts to check out for any abnormality such as swelling, lumps, abnormal discharge from the nipple, change in colour, shape and size. This is because such abnormalities may be signs and symptoms of breast cancer Breast cancer patient's retrospective self-reports showed that there is a positive association between performance of the BSE and early detection of breast cancer (Sharma et al., 2013). Once any of the symptoms are detected, the victim should immediately visit any healthcare provider or seek medical advice. Self Breast examination (SBE) is a most cost-effective screening-tool for early-detection of breast cancer (Roy and Abdus, 2016). Recently, females have been increasingly advised to embrace this lifesaving measure, by performing self breast examination once a month. There is evidence that women who correctly practice Self breast examination monthly are more likely to detect a lump in the early stage of its development, and early diagnosis has been reported to influence early treatment and yield a better survival rate (American Cancer Society, 2015). Regular examination of the breast allows a woman to become familiar with how her breasts normally look and feel, as well as enable her readily detect any changes that may occur. Many women naturally have some lumpiness and asymmetry. The key to the self breast examination is to learn how to find changes in the breasts that persist overtime. Many women do not know how to perform SBE properly. Performing SBE incorrectly can be almost as bad as not doing the exam at all, since it can give woman a false sense of security (Nde, Assob, Kwenti, Njunda & Tainenbe 2015). If a woman has normally lumpy breasts (typically called fibrocystic breast) she can learn the usual pattern of lumps and then point out new or unusual lumps to her physician. A lumpy breast or breast with cysts may be difficult to examine. In fact without knowledgeable direction from the patient, it may be more difficult for a physician to differentiate between a new mass and a stable lump. If a woman's breasts are normally lumpy, she should note how many separate lumps she feels and their corresponding locations when performing self exams Any change should be reported to a physician or health care provider (Abate, Yilma, Assefa & Tigeneh 2016). It is important to note that in the majority of cases (80%) breast lumps and changes are not cancerous. Therefore women should not allow their fear of breast cancer to keep them from visiting their physician if a lump or change is found.

According to World Health Organization (2013) and American Cancer society (2015), the summary of how to do Self Breast Examination (SBE) which is screening behaviour of relevance for women's health, follows.

1. First, lie flat on ones back.
2. With the right hand behind the head.
3. With the middle fingers of ones left hand, gently yet firmly press down using small motions to examine the entire right breast.
4. Then, while sitting or standing, examine your armpit (commonly skipped) because breast tissue extends to that area. Gently squeeze the nipple, checking for discharge.
5. Repeat the process on the left breast.

Although, some women find it easier to do the examination in the shower, when the skin is soft and wet, one is more likely to examine all of the breast tissue why lying down. It is argued that significant number of women find masses when they are bathing or dressing, and SBE once a month may contribute to a women's heightened awareness of what is normal for her.

The rationale is that a woman has a better chance to be cured if the cancer is identified in its early stages before it spreads to the lymph nodes and other organs in the body. Self breast examination is recommended because it is a self-help technique available to all women, which aid early detection and effective treatment. Though SBE is a practice that seeks out disease, it should be viewed as a fundamentally important health practice, which allows one to know her body better, ultimately enhancing the sense that one has some measure of control over her health and life(Alazmi, Alkhabbaz , Almutawa , Ismaiel, Makboul, & El- Shazly 2013). Self breast examination on a monthly basis has been advocated as a method for breast cancer screening.

Sadly, a low level of awareness has been reported among Nigerians(Omoyeni & Oluwafeyikemi, 2014)Nigeria medical experts blame death from cancer on inadequate and most times outdated diagnostic equipment, unable to support early diagnosis that makes effective treatment feasible (Baines,2018). Early presentation of breast cancer to hospital not only increases the chance of survival and better prognosis but also ensure cure of the patient (Servet, Hatice & Ebru 2015) Knowledge as a capacity to act. It is the information, understanding and skills that one gain through education or experience. Knowledge is important to man‘s quality of life because many of the things we do depends on the knowledge we have (igbokwe , Abugu & ugwu 2017).This study seek to highlight the extent to which the female secondary school teachers are informed and the understanding they have towards Self Breast Examination as a screening method for early detection.

Due to lack of knowledge in this area, most people still believe that breast cancer is caused by evil spirits, hence prompting them to patronize the services of traditional healers or herbalists who make use of ridiculous and questionable ‘remedies.’ This regrettably causes the disease to progress to the detriment of the health of the sufferer. This deterioration finally results in late presentation and fatality. With the problem of breast cancer on the increase globally in low and middle income countries, attention should be focused on educating those that will help to educate others like teachers; that is why this study knowledge of SBE among female teachers in Enugu educational zonal is of importance. Knowledge of SBE among female teachers in Secondary schools in Enugu metropolis may be influenced by such socio-demographic variables as age, marital status, level of education and religion. This study therefore seeks to highlight the Influence of Age and level of Education on knowledge of Self Breast Examination among Secondary School Teachers in Enugu Education zone. Thus, this study intended to determine the influence of age and level of education on knowledge of self breast examination among female Secondary Schools teachers in Enugu metropolis, this study therefore fills this gap.

The purpose of this study was to determine the Influence of Age and level of Education on knowledge of Self Breast Examination among Secondary School Teachers in Enugu Education zone. Specifically, the study was set to determine the:

1. Knowledge of the correct procedures on performing self breast examination possessed by female Secondary School teachers in Enugu Education zone.
2. knowledge of the correct procedures for performing self breast examination possessed by female Secondary School teachers in Enugu Education zone based on age
3. Knowledge of the correct procedures for performing self breast examination possessed by female Secondary School teachers in Enugu Education zone based on level of education

Research questions

1. What is the knowledge possessed by female Secondary School teachers in Enugu Education zone on correct procedures to perform self breast examination?
2. What is the knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on age?
3. What is the knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on level of education?

Hypotheses

The study hypothesized as follows:

1. There is no significant difference on knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on age.
2. There is no significant difference on knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on level of education?

Methods

To achieve the objective of the study, the cross-sectional survey research design was employed.

The choice of this design was based on the assertion of Nwana (1990) that survey research design describes situations as they are and gives the exact picture of the current status of the subjects of the study. Also, according to Akuezuilo and Agu (2006) survey design simply is a research in which a group of people or items is studied by collecting and analyzing data from only few people or items considered to be representative of the entire group.

It is deemed appropriate for the study because it produces information that is vital. Balogun and Owoaje (2005) utilized the design successfully to study knowledge and practice of self breast examination among female traders in Ibadan, Nigeria. This justified the use of survey research design for this study. The population for the study comprised one thousand five hundred (1,500) female secondary schools teachers in public secondary schools in Enugu Education zone. (PPSMB, 2013). The sample size consisted of one thousand and fifty (1050) teachers which were drawn using a multi stage sampling procedure. The first stage involved using all the three educational zones based on their LGA as the strata for sample selection. The second stage involved using simple random sampling technique of balloting without replacement, drawing seven schools from each zone based on LGAs namely; Enugu south, Enugu East and Enugu North to get a total of twenty-one schools. The final stage involves selecting all the female practicing teachers in the selected twenty-one schools for the study. The number of female practicing teachers in the twenty-one selected school is one thousand and fifty teachers, which is 70 percent of the population. Hence the sample size is 1050 – that is Enugu south – 255, Enugu East – 438, Enugu North – 357.Questionnaire, knowledge of correct procedure in performing Self Breast Examination (KSBEQ) was the instrument for data collection. Data were analyzed using descriptive statistics of frequency tables and percentage for research questions and chi square for the hypotheses which were tested at 0.05 level of significance. Out of one thousand and fifty copies of questionnaires shared among the female teachers in Enugu Education zone within the selected schools but it was only Nine hundred and forty questionnaires (940) were correctly answered. Some returned the questionnaire unanswered and others had incomplete responses. On the whole up to thirty-four copies of questionnaire got lost. The return rate is 89.5 percent.

Results

Table 1

Knowledge on correct procedures in performing self breast examination among female Secondary School teachers in Enugu Education zone (n=940)

	Response	
Procedures	**Yes (%)**	**No (%)**
1.Looking through the mirror at the breast for any Change	613(65.2)	327(34.5)
2. Palpation with finger pad	503(53.5)	437(46.5)
3.Examine the breast while bathing with finger pad	644(68.5)	296(31.5)
4.Lying down while examining the breast	660(70.2)	280(29.8)
5.Standing while examining the breast before a mirror for Symmetry in size and shape	528(56.2)	412(43.8)
6.Arms raised while the inner half of breast Palpated	546(58.1)	394(41.9)
7.Examining the inner half, lower outer quarter and upper outer quarter breast with finger pad	485(51.6)	455(48.4)
8.Using vertical strip, wedge and circle pattern to examine the breast using finger pad	384(40.9)	556(59.1)
9.Examining the breast while breastfeeding baby	387(41.2)	553(58.8)
10.Carefully shaking the breast simultaneously while standing	350(37.2)	590(62.8)

Table 1.1 Summary of knowledge in correct procedures of performing SBE among secondary school teachers in Enugu Education zone.

Level (0-10)	Frequency	Percent (%)
Low (0-3)	126	13.4
Moderate (4-6)	452	48.1
High (7-10)	362	38.5
Total	940	100

Table1 shows the knowledge in correct procedures of performing SBE among secondary school teachers in Enugu Education zone, the highest numbers of respondents know that lying down while examining the breast (70.2% responses) is a correct procedure in performing SBE. The table 1.1 shows that majority of the respondent have moderate level of knowledge (48.1%) on correct procedures of performing SBE. Thus female secondary school teachers in Enugu Education zone have moderate knowledge on correct procedure of performing SBE

Table 2
Knowledge of correct procedures on how to perform SBE possessed by female secondary School teachers in Enugu Education zone based on level of education. (N=940)

	Level of education				
	OND/NCE (N=234)	**B.Sc (N=409)**	**HND (N=183)**	**Others (N=114)**	**Total (N=940)**
Low knowledge	42(25.3)	77(46.4)	32(19.3)	15(3.0)	166(17.7)
Moderate knowledge	130(29.6)	165(37.5)	90(20.5)	54(12.3)	439(46.7)
High knowledge	62(18.5)	167(49.9)	61(18.2)	45(13.4)	335(35.6)
Total	**(24.9)**	**(43.5)**	**(19.5)**	**(12.1)**	**(100)**

Table 2 reveals that female secondary School teachers with all the levels of education have Knowledge of correct procedures on how to perform SBE. However the respondents with B.Sc level of education (49.9%) had high knowledge of correct procedures on how to perform SBE compare to those with NCE/OND (18.5%). Respondents with other educational qualifications (13.4%) had the least knowledge of correct procedures on how to perform SBE

Table 3
Knowledge of correct procedures on how to perform SBE among female secondary school teachers in Enugu based on age (n=940)

	Age				
	16-25yrs (N=158)	**26-35yrs (N=229)**	**36-45yrs (N=318)**	**46yrs & above (N=235)**	**Total (N=940)**
Low knowledge	97(15.9)	138(22.7)	205(33.7)	168(27.6)	608(64.7)
Moderate knowledge	48(19.6)	58(23.7)	81(33.1)	58(23.7)	245(26.1)
High knowledge	13(14.9)	33(37.9)	32(36.8)	9(10.3)	87(9.3)
Total	**(16.8)**	**(24.4)**	**(33.8)**	**(25)**	**(100)**

Table 3 revealed the knowledge of correct procedure in performing SBE among female secondary school teachers in Enugu Education zone based on their age. The table further shows the respondents with the highest knowledge of correct procedure in performing SBE were aged 26 to 35years (37.9%) followed by those aged 36 to 45years (36.8%) while those aged 46years and above (10.3%) had low knowledge.

Hypothesis 1

There was no significant difference on knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu metropolis based on level of education.

Table 4

Chi-square (χ^2) analysis of no significant difference on knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on level of education. (n=940)

	OND/NCE (N=234)	B.Sc (N=409)	HND (N=183)	Others (N=114)	Total (N=940)
Low knowledge	42(41.3)	77(72.2)	32(32.3)	15(20.1)	166(166.0)
Moderate knowledge	130(109.3)	165(191.0)	90(85.5)	54(53.2)	439(439.0)
High knowledge	62(83.4)	167(145.8)	61(65.2)	45(40.6)	335(335.0)
Total	**(24.9)**	**(43.5)**	**(19.5)**	**(12.1)**	**(100)**

χ^2 Values = 33.74, critical value -12.59, df-6, P < 0.05

Table 4 shows the Chi-square (χ^2) difference on knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on level of education. The result shows that there was relationship between level of education and knowledge. (χ^2 = 33.74, df= 6; p=-12.59< .05). Since the critical value was less than 0.05 level of significance, the null hypothesis was rejected. This implies that there was difference on the knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on level of education.

Hypothesis 2:

There is no significant difference on knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu metropolis based on age.

Table 5

Chi-square analysis of no significant difference on knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on age. (n=940)

	Age				
	16-25yrs (N=158)	26-35yrs (N=229)	36-45yrs (N=318)	46yrs & above (N=235)	Total (N=940)
Low knowledge	97(102.2)	138(148.1)	205(33.7)	168(152.0)	608(608.0)
Moderate knowledge	48(41.2)	58(59.7)	81(82.9)	58(61.2)	245(245.0)
High knowledge	13(14.6)	33(21.2)	32(29.4)	9(21.8)	87(87.0)
Total	**(16.8)**	**(24.4)**	**(33.8)**	**(25)**	**(100)**

χ^2=18.49, critical value=12.59, df-6, P<0.05

Table 5 shows the Chi-square (χ^2) difference on knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on age. The result shows that there was relationship between age and knowledge. (χ^2 = 18.49, df= 6; p=-12.59< .05). Since the critical value was less than 0.05 level of significance, the null hypothesis was rejected. This implies that there was difference on the knowledge of correct procedures on how to perform SBE possessed by female secondary school teachers in Enugu Education zone based on age.

Discussions

This research is focused to determine the knowledge possessed by female Secondary School teachers in Enugu Education zone on correct procedures to perform self breast examination. The findings in table 1 showed that the majority of the respondents know that looking through the mirror at the breast for any change (65.2% responses), palpation with finger pad (53.5% responses), examining the breast while bathing with finger pad (68.5% responses) are correct procedures in performing self breast examination. Also, fewer of the respondents know that using vertical strip, wedge and circle pattern to examine the breast using the finger pad (40.9%). The highest numbers of respondents know that lying down while examining the breast (70.2% responses) is a correct procedure in performing SBE. The table 1.1 shows that majority of the respondent have moderate knowledge (48.1%) on correct procedures of performing SBE. Thus the knowledge on correct procedure for performing SBE among female secondary school teachers in Enugu Education zone is moderate. This finding is in consonance with the report of Owoaje (2005) and Fitsum, Abdulhalik , Alemayehu, Desta and Bosena (2018), who reported moderate knowledge on correct procedures of performing SBE. The implication of this finding it that teachers should be taught through seminars, workshops on correct procedures of performing SBE because School teachers play an important and unique role in health education by helping young people to develop healthy practices including BSE. Through health education in school, students are able to gain an understanding and appreciation of healthy lifestyles that promote lifelong wellbeing. Also according to (Jafari et al., 2015), Medicine cannot cure all diseases and it is evidenced that SBE benefits women to detect any changes in their breasts as early as possible. Education is the backbone of a nation; the world in which we live today is comprised of diverse people where educators face complex-tasks in educating (Salam, Akram, Bujang, Yaman , Kamarudin, Siraj & Mohamad 2014). Findings from Table 2 revealed that all these level of education have Knowledge of correct procedures on how to perform SBE. However the respondents with B.Sc level of educational (49.9%) had the highest number of respondent with high knowledge of correct procedures on how to perform SBE, followed by NCE/OND (18.5%). Respondents with others educational qualification had (13.4%) had the least knowledge of correct procedures on how to perform SBE possessed by female secondary. This finding revealed that there is relationship between level of education and Knowledge of correct procedures on how to perform SBE. This is in agreement with the findings in table 4 were the null hypothesis was rejected thereby indicating that there is relationship between level of education and Knowledge of correct procedures on how to perform SBE. Table 3 showed the that highest number of respondent with high knowledge of correct procedure in performing SBE were ages between 26-35years (37.9%) followed by ages between 36-45years (36.8%) and the least age group 46years and above (10.3%). This finding also revealed that the younger age show concern to their health more than the older age. Also the finding in table 5 indicates a significant difference between age and knowledge of correct procedure for performing SBE. This finding contradict with the Minasie, Hinsermu and Abraham (2017) study which indicates younger women had lower self- breast examination when compared to Heath Extension Workers(HEW) in age category of 34-39 years. The finding may be due to elderly women HEW may be aware that age is a significant factor of breast cancer and may perceive the role of SBE in the early diagnosis of breast cancer as relevant

Conclusion

Based on the findings of this study, the following conclusions are drawn:

1. The knowledge on correct procedures in performing SBE among female secondary school teacher in Enugu Education zone is moderate. The knowledge on correct procedures in performing SBE among female secondary school teacher in Enugu metropolis depends on their level of education. The level of education B.Sc has the highest number of respondent with high level of knowledge on correct procedures in performing SBE.

Recommendations

Based on the findings and conclusion of the study, the following recommendations were made:

1. There is need for adequate knowledge on health issues especially on self breast examination should be given to female secondary school teachers. If teachers are to fulfill their role as an educator in their various communities; this knowledge gap needs to be filled.
2. Relevant government authorities therefore should have a mandate to ensuring that teachers are educated on health promotion activities such as SBE.

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