

Relationship between age and Breast Self-Examination among women in Nigeria

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Abstract: Breast cancer has now become the most commonly diagnosed cancer among women in several Sub-Saharan African countries, a shift from previous decades in which cervical cancer was the most commonly diagnosed cancer in many of these countries. One potentially important strategy in reducing breast cancer mortality is breast cancer screening to achieve earlier detection of cancer through Breast Self-Examination. So, creating awareness which is a very important tool entails better screening of breast cancer especially in middle and low income countries. This study examined the relationship between age and Breast Self-Examination among women in Sokoto, Nigeria. Cross sectional design was used to recruit 400 participants using multistage sampling technique. Findings of this study show that majority of the respondents had average knowledge of Breast Self-Examination but only few practiced Breast Self-Examination regularly. Moreover, a significant positive relationship was found between age of the respondents and the knowledge and practice of Breast Self-Examination. There is the need for nurses to teach women the correct procedure for Breast Self-Examination and the importance of regular Breast Self-Examination practice.

Keywords: Breast Self-Examination, Relationship, Age, Nigeria

I. Introduction

Breast self-examination (BSE) is a non-invasive adjuvant screening method for detection of early breast cancer. And is a useful measure when mammography screening is not available in the rural and poor urban areas¹. There is evidence that women who correctly practice BSE monthly are more likely to detect lump at the early stages of its development and early diagnosis has been reported to produce good prognosis¹. Breast Self-Examination refers to a woman being aware of the normal look and feel of her breasts and looking for changes in size or shape of the breasts, the presence of lumps, skin dimpling, redness, discharge or unusual pains^{2, 3, 4}.

For younger women, BSE is often the only method that is available to them to detect abnormal changes at an early stage due to the inaccuracy and ineffectiveness of other screening tests^{5, 6}, and due to their greater breast tissue density^{7, 8}. Regular BSE is a cost-effective, convenient, private and simple method that does not require specific equipment^{9, 10}. Despite these benefits, only 18%-36% of women perform BSE¹¹.

There is a significant difference in the perception of the risk and benefit of BSE procedure between different age groups¹². Older women who have a higher perception of risk of getting breast cancer are more likely to undertake regular BSE. Whereas, there is no correlation found between younger women and perceive risk of breast cancer and association with BSE^{12, 13}. This could be because it is known by women that breast cancer risk increases with age and young women do not feel that they are at risk until they reach an older age. Therefore, they see no need to undertake regular BSE practice.

Whilst mammography is not an accurate screening tool for young women, it is important that young women are targeted for educational programmes that provide information about what is normal and abnormal and increase their breast awareness¹⁴ as well as exploring their current knowledge¹⁵. There is a significant lack of information and research that addresses young women's knowledge and perceived barriers to breast cancer information and BSE practice. Although some studies show that, young women have a high level of knowledge of BSE but they do not practice BSE¹². Alharbi, Alshammari, Almutari, Makboul and El-Shazly identified barriers to the use of BSE and found that younger women cited factors such as being too busy as their reason for not utilizing this screening tool¹⁶. Therefore, young women are not accessing or using breast cancer information.

Age is a significant predisposing factor of breast cancer which is un-modifiable factor. Age plays a significant role in breast cancer mortality and morbidity. This is because there is decrease in the average age of women diagnose with breast cancer and increase in the life time risk of breast cancer among women^{17, 18}. Women living in United State of America have a 12.3% lifetime risk of being diagnosed with breast cancer. This is more than the lifetime risk of 1990 which was only 9.1%³. This may be as a result of increase in life expectancy, reproductive changes, use of menopausal hormones and obesity^{3, 17}.

According to American Cancer Society, 79% and 88% of new cancer cases and deaths respectively occurred in women 50 years of age or older³. This shows the significant role played by age in breast cancer morbidity and mortality. Women who are older than 40 years of age are encouraged to engage in regular BSE practice which aid early diagnosis of breast cancer. A study conducted in Sokoto, Nigeria shows that majority of the women diagnosed with breast cancer are within the ages of 41-50 years¹⁹. This show that age remains an important factor in the diagnosis, treatment and prevention of breast cancer. There is need for older women to have more knowledge of breast cancer than the younger ones, though BSE is the only recommended procedure for women younger than 40 years.

There are variations in the findings on the relationship between age and Breast Self-Examination. Some studies reported a significant positive relationship between age and Breast Self-Examination's knowledge and practice among women. Findings of Bilge and Keskin¹¹ revealed that there is a positive significant relationship between the age of the respondents and the knowledge of BSE. Twenty six percent of women with good knowledge of BSE are over the age of 40 years. This may be because women who are 40 years and above have more experience and may be aware of their increasing chance of getting breast cancer. Though, the study did not assess the women's knowledge of BSE well, because the study asked only two questions: the time for the commencement of BSE and frequency of practice of BSE.

Moreover, findings of Alwan et al. show a significant relationship between age and the knowledge of BSE among women in Iraq²⁰. This is similar to the findings of Al-Azmy et al., Alharbi et al., and Onwere et al., that a significant difference exists between the knowledge of BSE and the age of the respondents^{21, 16, 22}. This means that women who are older have more satisfactory knowledge of BSE than those who are younger. Though the findings of Dahlui et al., showed that a significant relationship exist between the knowledge of BSE and age of the respondents. But women who are below 50 years of age have more satisfactory knowledge of BSE than those above 50 years²³.

Age also influences the practice of BSE among women because of the risk associated with breast cancer. Studies conducted shows that a significant relationship exists between the age of the respondents and the practice of BSE. Women who are older are more likely to practice BSE than those who are younger. Though Breast Self-Examination is the only screening method for younger women^{21, 16, 20, 11}. Women that practiced BSE are older than those who did not practice BSE. While, other studies indicate no significant relationship exist between the age of the respondents and the knowledge and practice of BSE^{24, 25, 26, 27}.

There are no studies conducted in Sokoto to explore the relationship between the age and Breast Self-Examination among women. Therefore, there is need to discover this relationship in Sokoto, Nigeria. The aim of this study is to examine the relationship between age and knowledge and practice of Breast Self-Examination among women in Sokoto, Nigeria.

II. Methods

This study used quantitative approach with cross sectional design to examine the relationship between age and Breast Self-Examination's knowledge and practice among women in Sokoto, Nigeria. Women who were 18 years and above, who attended at least primary school and can read and write simple English, and women who lived in Sokoto for at least six months were recruited in the study. While women who had suffered breast cancer or had undergone mastectomy and women who were non-Nigerians or women who were Nigerians but were on a visit to Sokoto were excluded.

Four hundred women were recruited for the study using multistage sampling technique based on power analysis with Raosoft[®] software. The data was collected using questionnaire as an instrument for data collection. The questionnaire consists of demographics, knowledge of BSE and practice of BSE sections. The responses on knowledge sections were rated as follows: 2 marks for correct answers and 0 for incorrect answer or 'I don't know'. Scores of 0-19, 20-29 and 30-40 signifies inadequate knowledge, average knowledge and good knowledge respectively. The study received ethical approval from Noguchi Memorial Institute for Medical Research (NMIMR), University of Ghana, Accra. The data was analysed using Statistical Package for Social Sciences (SPSS version 20.0) for descriptive and inferential statistics. All tests were conducted with 95% confidence level and 0.05 significant levels.

III. Result

Four hundred questionnaires were distributed to the respondents, 395 were retrieved but 3 were incompletely filled and therefore only 392 were analysed representing 98.0 response rate.

Practice of Breast Self-Examination

Table 1 indicates the respondents' practice of Breast Self-Examination. Approximately sixty five percent (65.3%) of the respondents practiced BSE while 34.7% did not practice BSE. Meanwhile, among 65.3% of the respondents that practiced BSE, only 52.7% practiced BSE monthly which represented only 34.4% of the

total respondents. The percentage of the respondents that did not practice BSE gave reasons for not performing BSE as follows: that they did not know how to perform BSE, never heard information about BSE, they did not have time to perform BSE and finally they thought it was unnecessary to do BSE as indicated in table 1

Relationship between the Knowledge of BSE and the Age of the Respondents

Studies have shown that the prevalence of breast cancer increases with increase in the age of women, therefore, it is necessary to find out if there is any relationship between the age of the respondents and the knowledge of BSE. Table 2 shows a cross tabulation on the relationship between the respondents' knowledge of BSE and the age of the respondents. In the age level, majority (57.7%) were within 18 – 30 years while only 11.2% were above 40 years. In terms of BSE knowledge level, majority (45.4%) of the respondents had average knowledge of BSE, while only 25.0% had in-adequate knowledge of BSE. Moreover, the results of the knowledge level showed that among the 25% of the respondents with in-adequate knowledge, 71.4% of them were between 18 – 30 years and only 4.1% were above 40 years. Among the 45.4% of the respondents with average knowledge, 59.6% were within 18 – 30 years and only 14.6% were above 40 years of age. However, among the respondents with good knowledge level of BSE, majority (44.8%) of the respondents were between 31-40 years while the least is above the age of 40 years with only 12.1%.

Meanwhile, analysis of the age level in relation to knowledge level of BSE showed that among the 57.7% that were within 18 – 30 years, majority (46.9%) had average level of knowledge of BSE and only 22.1% had good knowledge of BSE. More than forty two percent (42.6%) of the respondents within 31 – 40 years had good knowledge of BSE and only 19.7% had in-adequate knowledge of BSE. However among the respondents that were above the age of 40 years, 59.1% had average knowledge as compared with 31.8% and 9.1% who had good and in-adequate knowledge of BSE respectively.

A statistical test analysis conducted using Chi-Square showed that there is a significant relationship between the age of the respondents and the knowledge of Breast Self-Examination ($X^2 = 23.919$, $df = 4$, $P = 0.000$). Moreover, there is a significant positive weak relationship between age of the respondents and the knowledge of BSE with contingency coefficient of 0.240.

Relationship between Age of the Respondents and the Practice of Breast Self-Examination

Breast cancer is common among old women; therefore it is necessary to examine if there is a relationship between the age of the respondents and the practice of BSE among women in Sokoto. Table 3 present a cross tabulation that examined the relationship between respondents' age and the frequency of practice of BSE. Approximately, fifty three percent (52.7%) of the respondents that practiced BSE practiced it regularly while 47.3% did not practice BSE regularly. Among the 52.7% that practiced BSE regularly, 57.8% were within 18 – 30 years of age group and only 13.3% were above 40 years of age. Moreover, among the respondents that did not practice BSE regularly (47.3%), majority (58.7%) were within 18 – 30 years of age and 5.0% were above 40 years of age. However, among the 58.2% of the respondents within 18 – 30 years, 52.3% practiced BSE regularly and 47.7% did not practice BSE regularly. Among the respondents within 31 – 40 years of age, majority (53.0%) did not practiced BSE regularly and 47.0% practiced BSE regularly. While among the respondents above 40 years of age, majority (75.0%) practiced BSE regularly and only 25.0% did not practice BSE regularly.

A statistical test conducted using Chi-Square established a significant relationship between the respondents age group and the frequency of practice of Breast Self-Examination ($X^2 = 5.882$, $df = 2$, $P = 0.027$). A contingency coefficient further showed that a significant positive weak relationship exist between the practice of BSE and the age of the respondents (Contingency Coefficient of 0.252).

IV. Discussion

Practice of Breast Self-Examination

The practice of Breast Self-Examination gives a woman the ability to become breast aware and the opportunity to detect any changes in her breast and report to the hospital early which may influence the treatment decision and the prognosis of breast cancer. The practice of Breast Self-Examination reflects the practical application of the knowledge of Breast Self-Examination. Findings of this study indicate that more than sixty five percent of the respondents practiced BSE but only about thirty four percent practiced BSE regularly. This finding is consistent with the findings of Bilge and Keskin¹¹ in Turkey, Buranguangrote et al.,²⁸ in Thailand, and Dahlui et al.,²³ in Malaysia. According to these authors, majority of women practiced BSE but only few practice BSE regularly. Similarly, in Nigeria the practice of BSE was high among health professionals in Ondo State²⁹.

This present study found that women who did not practice BSE reported reasons for their non-practice as lack of knowledge and information on how to do the procedure, lack of time, and BSE being an embarrassing procedure. Others thought that it was wrong to touch their breast and unnecessary to do BSE. These reasons are

similar to the findings of Alharbi et al.¹⁶ in which female teachers reported lack of knowledge, dislike to touch their breast, fear of finding a lump and forgetfulness as the reasons for non-performance of BSE. These reasons suggest that there is the need for health workers to intensify their efforts toward providing women with the information on breast cancer and Breast Self-Examination in order to increase the regular practice of BSE and to correct their misconceptions about breast cancer and BSE.

Relationship between age and knowledge of Breast Self-Examination

Age is a significant risk factor in the incidence of breast cancer. Women who are older are more likely to have breast cancer than the younger ones. Thus, this makes the older women to become more aware about the disease. According to American Cancer Society³, 79% and 88% of new cancer cases and deaths respectively occurred in women who are 50 years of age or older. This study found that there is a significant positive relationship between the knowledge of Breast Self-Examination and the age of the respondents. This means that women who are forty (40) years and above are more likely to have good knowledge of BSE than women who are below 40 years of age. Also, as the age of the respondents' increases there is a likelihood that the knowledge of BSE may also increase. As reported in previous studies older women (40 years and above) are more likely to have adequate knowledge of BSE as compared to younger women^{11, 16, 23}.

Relationship between age and the practice of BSE

Age plays a significant role in breast cancer morbidity and mortality among women. This is because there is a decrease in the average age of the women diagnosed with breast cancer and there is increase in the life time risk of breast cancer among women³. Women who are older than 40 years of age are encouraged to engage in regular Breast Self-Examination which aids early diagnosis of breast cancer³⁰. The findings of this study show that a significant positive relationship exists between the practice of BSE and the age of the respondents. This means that women who are 40 years of age and above practiced BSE regularly than those who are younger than 40 years. Therefore, women who are older than 40 years of age are more likely to practice BSE than those who are younger. This finding concurs with the findings of Al-Azmy et al.²¹, in Kuwait, Alwan et al.²⁰, in Iraq and Onwere et al.²², among women in the eastern part of Nigeria, who reported that women who practiced BSE were older than women who did not practice BSE. This may be due to the amount of information and knowledge that women in Sokoto have on breast cancer and Breast Self-Examination. Elderly women may be aware that age is a significant factor of breast cancer and may perceive the role of BSE in the early diagnosis of breast cancer as relevant.

V. Conclusion

Findings of this study show that women's age has significant relationship with their knowledge and practice of BSE. Therefore, there is need for healthcare providers to intensify their effort toward providing BSE information and education to women of all ages. The study was conducted in the urban setting where healthcare services and information are easily accessible, there is need to explore rural women's knowledge and practice of BSE in Nigeria.

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Tables

Table 1: Practice of Breast Self – Examination

Variable	Frequency	percentage
Respondents practice of BSE	Yes	256
	No	136
	Total	392
Respondents' frequency of practice of BSE	Monthly	135
	Quarterly	18
	Bi-annually	8
	Annually	22
	Once in a while	73
	Total	256
Respondents' reasons for not practicing BSE	Never heard of BSE	30
	Embarrassing to do	12
	Don't know how to do	34
	Do not have time	30
	Wrong to touch breast	10
	Unnecessary to do	20
	Total	136

Table 2: Cross tabulation of Age of the respondents and the knowledge of BSE

Age of the respondent	18 – 30		31 – 40		41 – 60		Total	
	Freq	%	Freq	%	Freq	%	Freq	%
In-adequate knowledge	70	17.9	24	6.1	4	1.0	98	25.0
Average knowledge	106	27.0	46	11.7	26	6.6	178	45.4
Good knowledge	50	12.7	52	13.3	14	3.6	116	29.6
Total	226	57.7	122	31.1	44	11.2	392	100

Table 3: cross tabulation of age of the respondents and the practice of BSE

Age of the respondents	Regular practice		Irregular practice		Total	
	Freq	%	Freq	%	Freq	%
18 – 30 years	78	30.5	71	27.7	149	58.2
31 – 40 years	39	15.2	44	17.2	83	32.4
41 – 60 years	18	7.0	6	2.3	24	9.4
Total	135	52.7	121	47.3	256	100