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Effect of Health Education Intervention on Practice of Breast Self–Examination Among Women of Reproductive Age in Selected Primary Healthcare Facilities in Ogun State, Nigeria

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ABSTRACT: *The study examined effect of health education intervention on practice of breast self–examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria. The study specifically examined the pre- and post- intervention knowledge and practice of breast self-examination among women of reproductive age in selected primary healthcare facilities. This study adopted one group pretest-posttest quasi-experimental research design. The population for the study comprises of women of reproductive age in two selected primary healthcare facilities in Ogun State. The researcher adapted a well-structured test paper that was used to obtain information from respondents. The instrument was validated by experts consisting of nursing professionals as well as experienced professional researchers who ascertained face and content validity. The research was carried out in three phases namely pre-intervention, intervention and post-intervention. Descriptive statistics such as frequency counts and percentages were used to answer the research question while inferential statistics of t-test was used to test the hypotheses. The findings of this study show that majority of the respondents at the pre-intervention phase had average knowledge of breast self-examination while the knowledge level was high after intervention. The findings of this study however show that majority of the respondents at the pre-intervention phase had never practice breast self-examination while the practice level was high after intervention. The study concluded that the health education intervention program improved the practice of breast self-examination among women of reproductive age. It was recommended among others that health educational intervention regarding practice of breast self-examination should be done periodically by health workers during clinics for women of reproductive age.*

KEYWORDS: health education, knowledge, practice, breast self-examination, women

INTRODUCTION

The incidence of breast cancer varies widely between countries and regions. It has been noted that the incidence of breast cancer is lower in developing countries when compared with developed

countries but the mortality rate is higher with poor outcome survival in developing countries and Sub-Saharan Africa, including Nigeria (Bray, et. al., 2018). The high incidence and fatality rate of breast cancer as well as the high cost of treatment require that it should be of a focus of high attention for health authorities and policy makers. This indicates a need for increased community awareness of methods for early detection of the disease.

In Nigeria, cancer of the breast is the leading female malignancy over the cancer of the cervix (Agbo, et al., 2017). In 2018, breast cancer accounted for 37% of all cancer types among females in Nigeria and 16.4% deaths. A nine-year review (2004-2013) of the trend of cancer incidence in one of the teaching hospitals in Nigeria revealed breast cancer to be the most common cancer in females; accounting for 49.9% of all the female cancer that presented to the institution that period (Saibu, et al., 2017; Sowunmi, et al., 2018).

In Nigeria, there is dearth of information on guidelines for breast cancer screening. The World Health Organization is of the opinion that there will be a 70% increase in incidence of breast cancer by 2030 in developing countries including Nigeria (Adeloye, et al., 2018). Perhaps to optimize caution, the American Cancer Society encourages women to be familiar with the normal structure and texture of their breasts, thus making it possible for someone to visit a health-care provider whenever changes are observed. Based on these observations, the main reason for regular breast self-examination should be for women to be able to know when changes take place in their breasts. In effect, it has been postulated that the regular practice of breast self-examination promotes health. There is evidence that majority of cases of breast cancer are detected by the women themselves, thus revealing that there is a positive association between the practice of breast self-examination and detection of breast cancer. Consequently, the practice of breast self-examination is regarded as a cost-effective method for the detection of breast cancer in resource-poor countries (Ossai, et al., 2019)

Breast self-examination for breast awareness is a safe way to become familiar with the normal appearance which includes the color, the size, shape and sensation of the breasts which could lead to early detection of cancer. Breast cancer is a malignant tumor arising from uncontrolled division of cells in the breast to form mass of tissue (Emesowum, 2016). These cells have the capacity to infiltrate adjacent or surrounding structures or spread to distant sites in the body where they can go on proliferating uncontrollably causing morbidity and mortality (Ossai, et al., 2019). Breast self-examination is a very important part of every adult women's personal health regimen. Regular breast self-examination by a woman helps her more readily to detect any changes that may occur. Many women naturally have some lumpiness and asymmetrical differences between right and left breast. The key to the breast self-examination is to learn how to find changes in the breast and should be the basis of all early detection programs.

Breast self-examination (BSE) has been identified as the only realistic approach in the detection of breast cancer in developing countries. A wide range knowledge- application gap has been observed across the globe between knowledge and skills of BSE. Multiple socio-demographic factors, myths, cultural beliefs, lack of accessibility to health care services have been identified as reasons for poor

uptake of breast screening. BSE can be defined as the preventive health behavior undertaken by a person who is believed to be healthy for the purpose of preventing diseases or detecting disease in an asymptomatic state. The purpose of a BSE is to learn the topography of the breasts which in turn will allow for one to notice changes in the future in order to detect breast masses or lumps.

Azubuike et al. (2018) stated that strengthening women's knowledge of the early warning signs and symptoms of breast cancer, therefore, remains the cornerstone in effective prevention of late presentation of breast cancer for treatment. Breast Self-Examination (BSE) is a process whereby women examine their breasts regularly by themselves to detect any abnormality in the breasts (swelling or lumps) in order to seek prompt medical attention (Birhane et. al., 2017). It is primarily aimed at detecting breast abnormalities, and enabling women to become familiar with their breasts so as to enable them detect changes from time to time. BSE does not incur at no financial cost, easy to perform individually at home and convenient. Breast self-examination is the only procedure that is free, private and can be taught to the adolescent and women of younger group (Kalliguddi, et al., 2019; Ifediora 2019).

Rakhshkhorshid, et al. (2018) reported that BSE enables women to take responsibility for their breast health. Thus, the lack of knowledge of the signs and symptoms of breast cancer and of BSE itself invariably leads to presenting with advanced disease. Breast self-examination practice remains low in many countries. A study conducted in Nigeria showed that breast self-examination was only 18.1% (Ossai, et al., 2019). Amoran and Toyobo (2015) indicated that even though 58.2% (n=495) had heard about BSE, only 24.4% practice BSE.

In view of the above, the study examined effect of health education intervention on practice of breast self–examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria. The study specifically examined

1. the pre- and post- intervention knowledge of breast self-examination among women of reproductive age in selected primary healthcare facilities; and
2. the pre- and post- intervention practice of breast self-examination among women of reproductive age in selected primary healthcare facilities.

Research Question

1. What is the pre- and post- intervention knowledge of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria?
2. What is the pre- and post- intervention practice of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria?

Research Hypotheses

Ho1: There is no significant difference between the pre- and post- intervention knowledge of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria

Ho2: There is no significant difference between the pre- and post- intervention practice of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria

Methodology

This study adopted one group pretest-posttest quasi-experimental research design. The population for the study comprises of women of reproductive age in two selected primary healthcare facilities in Ogun State. The study was conducted in two selected Local Government areas which are Abeokuta South and Odeda Local Government Areas. The two selected facilities selected were Oke – Ilewo Primary Health Centre and Baagbon Primary Health Centre. Cochran's formula was used to determine the sample size of 107. Multistage sampling procedure was used to select women of reproductive age from selected health facilities in Ogun State

The researcher adapted a well-structured test paper that was used to obtain information from respondents. The instrument was used to gather data from the study participants. The instrument for data collection comprises sections A, B, and C. Section A consisted of 6 socio-demographic items, while section B comprised of 20 questions on knowledge of breast self-examination and section C was a checklist which comprised of 20 items. The instrument was validated by experts consisting of nursing professionals as well as experienced professional researchers who ascertained face and content validity. The reliability of the instrument was ascertained through test re-test method in one primary healthcare facility outside the sampled PHCs. The data collected were analysed using Pearson's Product Moment Correlation Statistics which yielded reliability co-efficient value of 0.802 for section B and 0.817 for section C.

The research was carried out in three phases namely pre-intervention, intervention and post-intervention. The pre-intervention lasted for 2 days, intervention phase lasted for 8 days while post-intervention lasted for 2 days. Data collected were analysed with the use of SPSS version 28. Descriptive statistics such as frequency counts and percentages were used to answer the research question while inferential statistics of t-test was used to test the hypotheses.

Results

Research Question 1: What is the pre- and post- intervention knowledge of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria?

Table 1: Pre and post- intervention knowledge of breast self-examination among women of reproductive age

Knowledge levels	Category of scores	Pre-intervention		Post-Intervention	
		Frequency	Percent (%)	Frequency N	Percent (%)
High	15-20	17	15.9	63	58.9
Average	10-14	49	45.8	31	29.0
Poor	1-9	41	38.3	13	12.1
Total		107	100.0	107	100.0
Mean±Standard dev		9.12±3.16		16.38±2.03	
Percentage (%)		45.6		81.9	
Mean gain	7.26				

Table 1 shows the pre- and post- intervention knowledge of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria. At the pre-intervention, 41 (38.3%) participants had poor knowledge, 49 (45.8%) and 17 (15.9%) had knowledge mean scores at average and high respectively on breast self-examination. The pre-intervention knowledge mean score of respondents on breast self-examination was 9.12±3.16, which is equivalent to 45.6% knowledge level. At the post-intervention, 13 (12.1%) had poor knowledge level, 31 participants (29.0%) and 63 (58.9%) had knowledge mean scores at average and high respectively on breast self-examination. The post-intervention knowledge mean score of respondents on breast self-examination was 16.38±2.03, which is equivalent to 81.9% knowledge level. It was concluded that there was a knowledge mean gain of 7.26 after the health educational intervention.

Research Question 2: What is the pre- and post- intervention practice of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria?

Table 2: Pre and post- intervention practice of breast self-examination among women of reproductive age

Practice levels	Category of scores	Pre-intervention		Post-Intervention	
		Frequency	Percent (%)	Frequency N	Percent (%)
Frequent	14-20	2	1.9	72	67.3
Seldom	7-13	31	29.0	28	26.2
Never	1-6	74	69.2	7	6.5
Total		107	100.0	107	100.0
Mean±Standard dev		6.93±2.31		17.12±2.05	
Percentage (%)		34.7		85.6	
Mean gain	10.19				

Table 2 shows the pre- and post- intervention practice of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria. At the pre-intervention, 74 (69.2%) participants never practice breast examination, 31 (29.0%) and 2 (1.9%) seldom and frequently practice breast self-examination. The pre-intervention practice mean score of respondents on breast self-examination was 6.93±2.31, which is equivalent to 34.7% practice level. At the post-intervention, 7 (6.5%) never practice breast examination, 28 participants (26.2%) and 72 (67.3%) seldom and frequently practice breast self-examination. The post-intervention practice mean score of respondents on breast self-examination was 17.12±2.05, which is equivalent to 85.6% practice level. It was concluded that there was a practice mean gain of 10.19 after the health educational intervention.

Test of Hypotheses

Ho1: There is no significant difference between the pre- and post- intervention knowledge of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria

Table 3: Independent t-test showing the difference in the pre and post intervention knowledge scores

	N	Mean	Std. Dev.	df	T	Sig
Pre-Intervention	107	9.12	3.16	212	19.997	.000
Post-Intervention	107	16.38	2.03			

Table 3 revealed that there is significant difference between the pre- and post- intervention knowledge of breast self-examination among women of reproductive age in selected primary healthcare facilities ($t = 19.997$, $p = .000$). Hence, the null hypothesis was rejected and the alternate hypothesis accepted. Therefore, there was significant difference between the pre- and post-intervention knowledge of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria

Ho2: There is no significant difference between the pre- and post- intervention practice of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria

Table 4: Independent t-test showing the difference in the pre and post intervention practice

	N	Mean	Std. Dev.	df	T	Sig
Pre-Intervention	107	6.93	2.31	212	34.130	.000
Post-Intervention	107	17.12	2.05			

Table 4 revealed that there is significant difference between the pre- and post- intervention practice of breast self-examination among women of reproductive age in selected primary healthcare facilities (t = 34.130, *p* = .000). Hence, the null hypothesis was rejected and the alternate hypothesis accepted. Therefore, there was significant difference between the pre- and post- intervention practice of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria

DISCUSSION

The findings of this study show that majority of the respondents at the pre-intervention phase had average knowledge of breast self-examination while the knowledge level was high after intervention. It was concluded that there was a knowledge mean gain of 7.26 after the health educational intervention. Studies with similar outcomes are Rakhshkhorshid et al (2018) who found low knowledge of breast cancer examination. Similarly, a study conducted in Nigeria showed that breast self-examination was only 18.1% (Ossai, et al., 2019). In addition, Abera, et al. (2017) found in their study that before any intervention, the knowledge and practical competency of most of the participants were not satisfactory but knowledge level improved after intervention.

The findings of this study however show that majority of the respondents at the pre-intervention phase had never practice breast self-examination while the practice level was high after intervention. It was concluded that there was a practice mean gain of 10.19 after the health educational intervention. This finding is consistent with the findings of Abera et al. (2017) who reported that a planned teaching intervention was significantly effective in improving the practice of breast self-examination among first year midwifery students. However, the result of study carried out by Adogu, et al. (2019) observed a different finding, where 70.0 % of participants had adequate knowledge of breast cancer. The reason for the high score observed by Adogu, et al. (2019) was because the participants were studying a health-related course as opposed the participants in this present study.

It was also revealed that there was significant difference between the pre- and post- intervention knowledge of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria. Masso-Calderón, et al. (2018) in their study found that breast self-examination was practiced by 78.1% of the participants, and the overall knowledge of breast cancer risk factors was poor. The educational intervention resulted in significant

improvements on breast self-examination practice, the knowledge of the technique, and the knowledge of the main risk factors for breast cancer as well as the practice of physical activity and vegetable intake at 6 months follow-up.

It was further revealed that there was significant difference between the pre- and post- intervention practice of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria. This is in line with the findings of Sani and Yau (2018) who reported that model-based educational interventions are more effective for BSE compared to the conventional teaching methods. Also, Adogu, et al. (2019) reported that the BSE accuracy of the students was increased after education. According to the author, the students started to practice BSE with the right techniques and positions at the right time.

Conclusion

The study concluded that the health education intervention program improved the practice of breast self-examination among women of reproductive age in selected primary healthcare facilities in Ogun State, Nigeria.

Recommendations

The following are hereby recommended:

1. There is an urgent need to pay more attention to creating more awareness about breast self-examination among women of reproductive age.
2. Health educational intervention regarding practice of breast self-examination should be done periodically by health workers during clinics for women of reproductive age
3. Primary Healthcare facilities should be adequately equipped to educate women of reproductive age to be consistent with breast self-examination.

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