Educational Intervention on the Prevention of Breast Cancer among Female Artisans in Surulere Local Government Area of Lagos State

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Abstract:

Background:*Breast cancer (BC) is one of the most common diseases in women in the global population. Therefore, education is a fundamental part of the prevention and management process of breast cancer. The objective of this study is to explore the effect of educational interventions and prevention of BC among female artisan in Idi Araba Lagos state.This study adopted a quasi-experimental design with 30 participants using a well-structured 31 questions with answers (Yes or No), (Cronbach alpha was 0.78). The pre and post intervention tool covers sociodemographic characteristics, knowledge of breast cancer, its prevention and knowledge of breast self-examination (BSE). Data were analyzed using (SPSS) version 23. Results were presented using descriptive statistics, Chi- square at p=0.05 to test the validity of the main hypothesis. There is significance relationship between the pre-intervention knowledge of breast cancer among the women and their educational status (p-value=0.011, χ^2=9.074), with a p-value >0.05. Therefore, the null hypothesis is rejected. Also, the study reveals that there is no significance relationship between the post-intervention knowledge of breast cancer among the women and their educational status (p-value=0.557, χ^2=1.204), with a p-value >0.05. Therefore, the null hypothesis is not rejected.*

Keywords; Breast cancer, Breast self-examination, educational intervention, Female artisans.

I. Introduction

Breast cancer (BC) is a malignant disease characterized by rapid, abnormal, and uncontrolled spread of cells in the different tissue types found in the mammary gland, such as epithelial cells of the mammary ducts or lobules, form a tumor that invades neighboring tissues and metastasizes to other organs in the body (Fuentes, 2019).A study found that BC disease causes a series of economic, social, and family-related issues for those suffering from it. BC has one of the highest mortality rates for those suffering from it being the second most diagnosed cancer globally and the most common cancer among women (Kolak, 2018).

During a comprehensive study, a prediction of the incidence of BC was made and it was determined that there will be approximately 3.2 million new cases by 2050 (Tao, 2015). This will mainly affect the least developed regions of the world where 56% of new cases and 63% of deaths are reported (Sufa, 2017). It is estimated that women who reach 85 years of age or older will have a 1 in 9 chance of developing BC (Dornelles, 2018).Every day, women are affected more and more by BC due to an apparent lack of knowledge of preventive measures and a lack of urgency to perform breast self-examinations at an early age. This is due to insufficient guidance offered to women on this issue. Breast carcinoma is rare before the age of 20, but from this age the incidence rises steadily (Carrion, 2017).

There has been a greater emphasis placed on the importance of early BC detection through health promotion, with the aim of reducing morbidity and mortality rates at both international and national levels. However, this has not had a strong enough impact on the population, so more effective guidance on prevention is required. One of the main problems is the lack of knowledge as well as sociocultural factors, applicable to both men and women. Nigerian's short- and medium-term outlook regarding BC is not encouraging because the programmes that were created and implemented for prevention and early detection have not adequately curbed the number of cases and deaths from these diseases (Dorame, 2017).

Furthermore, it has been determined that women who live in countries with a high socioeconomic level have a higher risk of developing BC, but there is a higher risk of death among women who live in poor countries, because they have less access to healthcare services for early detection, treatment and control of the disease (Padron, 2016).

Although people claim to be knowledgeable about BC, it has been reported that people find it difficult to identify risk factors and prevention strategies, as well as specific information regarding treatment. Thus, it is necessary to improve education on preventing this type of cancer in study programmes and to encourage health promotion (Simbala, 2019).

Educational interventions have been recommended as an effective public health approach in the comprehensive control of BC, especially among young people. At the same time, the importance of preventive BC health education interventions, in all stages of life, is reiterated, in order to develop health-promoting behaviors that allow the detection and timely control of risks in the development of BC (Noman, 2020).

The level at which patients present their cases of breast cancer at an advanced stage when little or no benefit can be derived from any therapy is the hallmark of this disease amongst Nigerian women. Recent global cancer statistics indicate rising global incidence of breast cancer, and the increase is occurring at a faster rate in populations of developing countries that hitherto enjoyed low incidence of the disease. Being worried by the prevailing situation on women as decision makers and health care givers in their families across the globe, makes the need to create awareness and screening programme necessary for early detection of the disease among female (Artisans in Surulere local government Lagos), and here lies the role of health education in creating awareness that brings about behavior modification.

II. Materials and Methods

This study was conducted among female artisans (hairdressers) in Idi Araba in Surulere Local Government in Lagos state. A densely populated area located in the heart of Surulere the town. Quantitative method was used to obtain information from the female hairdressers working in Idi Araba for this research.

Research Design: This study adopted a quasi-experimental design in assessing the effect of educational intervention on the prevention of breast cancer among female artisans in Surulere Local government area of Lagos state.The population of interest for this study composed of female artisans in Idi Araba Local government area of Lagos state that can read and write while the illiterates were excluded because of paucity of time for the study. The participants were identified from moving from street to street, approached through balloting (Yes or NO). Those who picked yes, willing and consented participated in the study. Thirty female hairdresserswho accepted were enrolled into the research following full explanation of the intervention.

Samplesize: The sample sizeobtained for this study was 30 femalehairdressers.

Sample size calculation: The sample size was estimated on the basis of single proportion design.The confidential interval of 5% and confidence level of 95% maintained.

Inclusion criteria:
Literate female hairdresser above 18years.

Exclusion criteria:
Illiterate female hairdressers and male hairdressers.

Procedure Methodology: After verbal informed consent was obtained, A well-structured 34- questionnaire (Cronbach alpha was 0.78) was developed to find out the level of knowledge of breast cancer among the female artisans which rated pre-, post intervention measures. The pre and post intervention tool covers sociodemographic characteristics, knowledge of breast cancer and its prevention and knowledge of breast self-examination (BSE).

Intervention procedure: The participants were introduced to an educational intervention on Breast cancer. The educational intervention consists of two sections. Section one provides general information about breast cancer, it further explains BC symptoms, BC stages, BC risk factors to improve participants knowledge of BC. Section two explains breast self-examination (BSE) procedures and to increase participants knowledge about it and motivate them to follow the procedure. BSE was practiced using a breast model to allow participants acquire knowledge on palpation technique and signs to be aware of when examining the breast. Following that, participants were asked to perform BSE on what they have learnt.

Reliability and validity of instrument: Reliability of instrument was assured through test re-test method with equivalent groups by administering the questionnaire to 3 artisans that is, 10% of sample population a week before away from the study area. Content and item analysis was conducted with Cronbach Algha of 0.78 computed. The validity of the questionnaire for the study was ensured through incorporating items and variables identified from review of literature of breast cancer and breast self-examination and the objective of the study and guided by the Health Belief Model (HBM) developed in the early 1950s by psychologists Hochbaun, Rosenstock and others at the U.S. Public Health Service in order to understand the failure of people to adopt disease prevention strategies or screening tests for the early detection of disease. Further review of the instrument by my senior colleagues was extremely undertaken to provide face validity.

Ethical consideration: Before embarking on the research, all participants gave their consent verbally before data collection and intervention. Confidentiality and privacy ensured at all stages of data collection, management, and analysis.

Method of data analysis: Data were analyzed using the computer software statistical package for social sciences (SPSS) version 23. Results were presented using descriptive statistics such as frequencies, percentages, and charts. Chi- square was used to process the data collected and to test the validity of the main hypothesis. All the statistical tests were set at p=0.05 level of significance. The decision rule applied was p less or equal to 0.05, the Null hypothesis will be rejected in favour of the alternate hypothesis otherwise do not reject.

III. Result

The total of 60 questionnaires (30 pre and 30 post intervention) was distributed to assess the effect of educational intervention on the prevention of breast cancer among female artisans in Idi Araba area of Lagos State. All administered questionnaires were retrieved and analyzed.

Table 1: Socio-demographic Characteristics of Respondents (N=30)

Variables	Frequency	Percentage (%)
Age Group (Mean ± SD)		
(30.7 ± 9.6)		
11-20 years	10	33.3
21-30 years	13	43.3
31-40 years	4	13.3
41-50 years	3	12.910.0
Level of Education		
Primary	5	16.7
Secondary	10	33.3
Tertiary	11	36.7
None	4	13.3
Religion		
Christianity	16	53.3
Islam	14	46.7
Marital status		
Married	20	66.7
Single	10	33.3
Ethnic Group		
Yoruba	11	36.7
Hausa	10	33.3
Igbo	7	23.3
Others	2	6.7

Table no 1 above shows the socio-demographic data of the respondents. It shows that majority ofthe respondents 13 (43.3%) are between ages 21 and 30 years, less than half 11 (36.3%) havetertiary education, majority are Christians 16 (53.3%), 20 (66.7%) are married and 11 (36.7%) are of Yoruba ethnic group.

Knowledge Scale Summary

Value	Frequency	Percent (%)
Good Knowledge	18	60.0
Poor Knowledge	12	40.0
Total	30	100.0

Overall level of knowledge pre-intervention

The knowledge summary above indicates the level of knowledge received by the respondents. Respondents with score above the average (50% and above) displayed good knowledge. However, respondents with score below the average (below 50%) displayed poor knowledge. The summary above shows that majority of the respondents 18 (60.0%) displayed good knowledge of breast cancer, while 12 (40.0%) displayed poor knowledge of breast cancer.

Table no 2: Pre-intervention knowledge of breast cancer (N=30)
Table no 2 above shows that regarding the pre-intervention knowledge of breast cancer, majorityof the respondents 22 (73.3%) have heard about breast cancer before, 9 (30.0%) heard on radio/TV, less than half 12 (40%) heard from family and friends, 17 (56.7%) know that breast cancer is the most common cancer among women, 15 (50.0%) do not know it affects the breast tissues, more than half do not know 20 (66.7%) advanced age increases risk of developing it majority did not know 17 (56.7%) that failure to breastfeed a baby increases the chances, more than half 18 (60.0%) know that null-parity too increases the risk, majority19(63.3%) knew that oral contraceptive pills increases the risk as well as alcohol consumption 14(46.7%), majority 18(60.0%)

identified that breast cancer is contagious, do not know breastfeeding reduces the risk 16 (53.3%), and few know preventive measures of breast cancer 12 (40.0%).

Table 3: Post-intervention knowledge of breast cancer (N=30)

	Variables	Yes (%)	No (%)
1.	Have you heard of breast cancer before	30(100.0)	
2.	Did you hear about breast cancer on radio/TV?	23(76.7)	7(23.3)
3.	Did you hear about breast cancer from family and friends?	22(73.3)	8(26.7)
4.	Breast cancer is the most common cancer among women worldwide?	25(83.3)	5(16.7)
5.	Breast cancer is the cancer that affects the breast tissue?	26(86.7)	4(13.3)
6.	Advanced age increases the risk of developing breast cancer?	23(76.7)	7(23.3)
7.	Failure to breastfeed a baby increases the chances of developing breast cancer	24(80.0)	6(20.0)
8.	Null parity increases the risk of developing breast Cancer	23(76.7)	7(23.3)
9.	Oral contraceptive pills may increase the risk of developing breast cancer	26(86.7)	4(13.3)
10.	Alcohol consumption increases risk of developing breast cancer	24(80.0)	6(20.0)
11.	Breast cancer is contagious	3(10.0)	27(90.0)
12.	Early menarche (under 11 years) increases the risk of developing breast cancer	25(83.3)	5(16.7)
13.	Breastfeeding reduces chances of developing breast cancer	26(86.7)	4(13.3)
14.	Smoking increases the risk of developing breast Cancer	25(83.3)	5(16.7)
15.	Breast cancer if not detected early can lead to Death	25 (83.3)	5(16.7)
16.	Preventive measures of breast cancer include alcohol abstinence, physical activity, healthy diet etc.	27(90.0)	3(10.0)

Table 3 above shows that regarding the post-intervention knowledge of breast cancer, all the respondents had

	Variables	Yes (%)	No (%)
1.	Have you heard of breast cancer before	22(73.3)	8 (26.7)
2.	Did you hear about breast cancer on radio/TV?	9 (30.0)	21(70.0)
3.	Did you hear about breast cancer from family and friends?	12(40.0)	18(60.0)
4.	Breast cancer is the most common cancer among women worldwide?	17(56.7)	13(43.3)
5.	Breast cancer is the cancer that affects the breast tissue?	15(50.0)	15(50.0)
6.	Advanced age increases the risk of developing breast cancer?	10(33.3)	20(66.7)
7.	Failure to breastfeed a baby increases the chances of developing breast cancer	13(43.3)	17(56.7)
8.	Null parity increases the risk of developing breast Cancer	12(40.0)	18(60.0)
9.	Oral contraceptive pills may increase the risk of developing breast cancer	19(63.3)	11(36.7)
10.	Alcohol consumption increases risk of developing breast cancer	14(46.7)	16(53.3)
11.	Breast cancer is contagious	18(60.0)	12(40.0)
12.	Early menarche (under 11 years) increases the risk of developing breast cancer	8(26.7)	22(73.3)
13.	Breastfeeding reduces chances of developing breast cancer	14(46.7)	16(53.3)
14.	Smoking increases the risk of developing breast cancer	16(53.3)	14(46.7)
15.	Breast cancer if not detected early can lead to death	13(43.3)	17(56.7)
16.	Preventive measures of breast cancer include alcohol abstinence, physical activity, healthy diet etc.	12(40.0)	18(60.0)

heard of breast cancer 30 (100%), majority of the respondents 25 (83.3%) know that breast cancer is the most common among women, 26 (86.7%) know that it affects the breast tissue, very few 7 (23.3%) do not know that advanced age increases risk of developing breast cancer, more than half 23(76.7%) know that null-parity increases risk of developing breast cancer, majority know 25 (83.3%) that early menarche increases risk, very few 4 (13.3%) do not know breastfeeding reduces chances developing breast cancer 25 (83.3%) know that breast cancer can lead to death if not detected early, majority of the respondents 27 (90.0%) know the preventive measures of breast cancer include; physical activity, healthy diet and alcohol abstinence.

Knowledge Scale Summary

Value	Frequency	Percent (%)
Good Knowledge	28	93.3
Poor Knowledge	2	6.7
Total	30	100.0

The knowledge scale summary above indicates the level of knowledge received by the respondents. Respondents with score above the average (50% and above) displayed good knowledge. However, respondents with score below the average (below 50%) displayed poor knowledge.
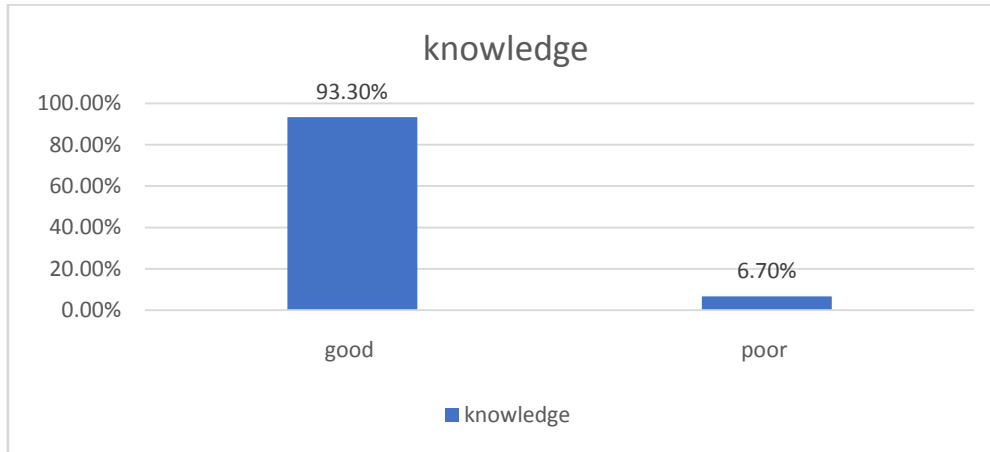
Figure 1: Overall level of knowledge post-intervention

Figure 1 above shows that majority of the respondents 28 (93.3%) displayed good knowledge of breast cancer, while 2 (6.7%) displayed poor knowledge of breast cancer after the educational intervention.

Table 4: Pre-intervention knowledge of breast self-examination

Variables		Yes (%)	No (%)
1.	Have you heard of breast-self-examination?	22 (73.3)	8 (26.7)
2.	Early detection of breast cancer is possible through BSE?	22 (73.3)	8 (26.7)
3.	Do you know how to perform BSE?	13 (43.3)	17 (56.7)
4.	Did you learn how to perform BSE on TV/ radio?	2 (6.7)	28 (93.3)
5.	Did you learn how to perform BSE from the hospital?	13 (43.3)	17 (56.7)
6.	BSE should be started from puberty?	13 (43.3)	17 (56.7)
7.	BSE should be done monthly 3-5 days after menstruation?	17 (56.7)	13 (43.3)
8.	BSE is done by feeling the breast tissue with hand to check for lump?	13 (43.3)	17 (56.7)
9.	You assess the size, shape, and symmetryof the breast during BSE?	19 (63.3)	11 (36.7)
10.	Any abnormality detected during BSE should be reported in the hospital?	18 (60.0)	12 (40.0)
11.	Do you practice breast-self-examination?	9 (30.0)	21 (70.0)
12.	If you have been practicing BSE, have you discovered anyabnormality in your breast?	1 (3.3)	29 (96.7)
13.	Did you visit the hospital after discovering any abnormality in your breast?	0 (0.0)	30 (100.0)
14.	Do you think BSE is a good practice?	16 (53.3)	14 (46.7)
15.	Do you examine your breast periodically?	10 (33.3)	20 (66.7)

Table 4 above shows that regarding the pre-intervention knowledge of breast cancer, majority of the respondents have heard of breast self-examination 22 (73.7%) and know that early detection of breast cancer is possible through breast self-examination (BSE), very few 13 (43.3%) know how to perform BSE, majority 13 (43.3%) do not know it should be started from puberty, more than half 17(56.7%) know. BSE should be done 3-5 days after menstruation, less than half 13 (43.3%) know it is done by feeling the breast tissue for lump, most of the respondents 21 (70.0%) do not practice BSE, none of the respondents visit the hospital after discovering any abnormality in the breast, 16 (53.3%) think BSE is a good practice, while only 10 (33.3%) practice BSE periodically.

Knowledge Scale Summary

Value	Frequency	Percent (%)
Good Knowledge	6	20.0
Poor Knowledge	24	80.0
Total	30	100.0

The knowledge scale summary above indicates the level of knowledge received by the respondents. Respondents withscore above the average (50% and above) displayed good knowledge. However, respondents with score below the average (below 50%) displayed poor knowledge.
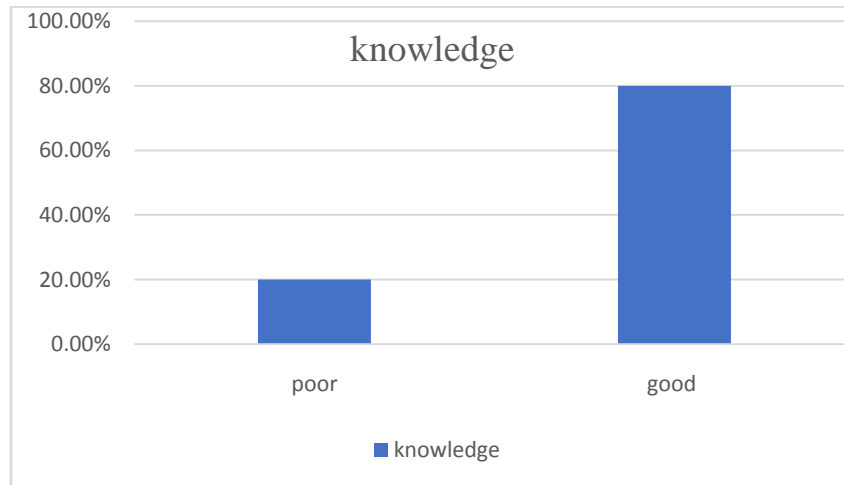
Figure 2: Overall level of knowledge for preintervention study

Figure 2 above shows that majority of the respondents 24 (80.0%) displayed poor knowledge of breast self-examination, while 6 (20.0%) displayed good knowledge.

Table 5: Post-intervention knowledge of breast self-examination

Variables		Yes (%)	No (%)
1.	Have you heard of breast-self-examination?	30 (100.0)	0 (0.0)
2.	Early detection of breast cancer is possible through BSE?	27 (90.0)	3 (10.0)
3.	Do you know how to perform BSE?	27 (90.0)	3 (10.0)
4.	Did you learn how to perform BSE on TV/ radio?	25 (83.3)	5 (16.7)
5.	Did you learn how to perform BSE from the hospital?	22 (73.3)	8 (26.7)
6.	BSE should be started from puberty?	25 (83.3)	5 (16.7)
7.	BSE should be done monthly 3-5 days after menstruation?	27 (90.0)	3 (10.0)
8.	BSE is done by feeling the breast tissue with hand to check for lump?	27 (90.0)	3 (10.0)
9.	You assess the size, shape, and symmetry of the breast during BSE?	24 (80.0)	6 (20.0)
10.	Any abnormality detected during BSE should be reported in the hospital?	24 (80.0)	6 (20.0)
11.	Do you practice breast-self-examination?	24 (80.0)	6 (20.0)
12.	If you have been practicing BSE, have you discovered any abnormality in your breast?	27 (90.0)	3 (10.0)
13.	Did you visit the hospital after discovering any abnormality in your breast?	25 (83.3)	5 (13.7)
14.	Do you think BSE is a good practice?	26 (86.7)	4 (13.3)
15.	Do you examine your breast periodically?	22 (73.3)	8 (26.7)

Table 5 shows the response of respondents regarding post-intervention knowledge of breast self-examination, all 30 (100.0%) the respondents have heard of BSE, 27 (90%) know how to perform BSE, 25 (83.3%) know that it should be started from puberty and 27(90.0%) know that it should be done 3-5 days after menstruation, majority of the respondents 26 (86.7%) think BSE is a good practice, while 22 (73.3%) do examine their breast periodically.

Knowledge Scale Summary

Value	Frequency	Percent (%)
Good Knowledge	26	86.7
Poor Knowledge	4	13.3
Total	30	100.0

The Knowledge scale summary above indicates the level of knowledge received by the respondents. Respondents with score above the average (50% and above) displayed good knowledge. However, respondents with score below the average (below 50%) displayed poor knowledge.

Figure 3: Overall level of knowledge post-intervention

Figure 4.4 above shows that majority of the respondents 26 (86.7%) displayed good knowledge of self-breast examination, while 4 (13.3%) displayed poor knowledge of self-breast examination after the educational intervention.

Table 6: Relationship between the level of pre-intervention knowledge of breast cancerand the level of education of the respondents

Variables		Pre-intervention level of Knowledge		χ^2	df	P-value
		Good (%)	Poor (%)			
Educational Status	Primary	3	2	7.159	3	0.067
	Secondary	7	3			
	Tertiary	8	3			
	None	0	4			
Total		**18**	**12**			

Table 6shows that there is no significant relationship between the pre-intervention knowledge of breast cancer of the women and their educational status (p-value=0.067, χ^2=7.159), with a p-value >0.05. Therefore, the null hypothesis will not be rejected.

Table 7: Relationship between the level of post-intervention knowledge of breast cancer and the level of education of the respondents

Variables		Post-intervention levelof Knowledge		χ2(Fisher)	df	P-value
		Good (%)	Poor (%)			
	Primary	5	0	13.929	3	0.003
	Secondary	10	0			
Educational	Tertiary	11	0			
Status	None	2	2			
Total		**24**	**2**			

Table 7 shows that there is no significance relationship between the post-intervention knowledge of breast cancer of the women and their educational status (p-value=0.003, χ^2=13.929), with a p-value <0.05. Therefore, the null hypothesis is rejected.

IV Discussion of Findings

This study shows that majority of the respondents 13 (43.3%) are between ages 21 and 30 years. Unlike a study by Carmen et al., (2021) in which the age ranges of the respondents were 30-65 years. In this study, less than half 11 (36.7%) have tertiary education, majority are Christians 16 (53.3%), 20 (66.7%) are married and 11 (36.7%) are of Yoruba ethnic group.

The result of this study shows that majority 18 (60.0%) of the respondents displayed good pre-intervention knowledge of breast cancer, while 12 (40.0%) displayed poor pre-intervention knowledge. While 22 (73.3%) have heard of breast cancer before and only 8 (26.7%) have not heard about it. This is like the study by Mensah (2016) where majority of the respondents are aware of breast cancer being the most common among women. However, Noman (2020) in a study carried out in Peru reported that majority of the respondents had insufficient pre-intervention knowledge of breast cancer. Zhang (2020) also reported that most of the

respondents are aware of breast cancer and that adoption of healthy lifestyle would decrease the risk of developing it by 17%-58%.

The post intervention result showed that 28 (93.3%) of the women had good knowledge of breast cancer while a few 2 (6.7%) had poor knowledge. This is related to the study conducted by Bernal et al., (2017) in Mexico among adolescents in which the post intervention knowledge of breast cancer increased as the educational intervention was adequate to improve their knowledge.

This study reveals the pre-intervention knowledge of the respondents about breast-self-examination (BSE). Majority few 6 (20%) displayed good pre-intervention knowledge, while 24 (80%) displayed poor knowledge. This is contrary to the study conducted in Lima (2019), where 62.5% of the women do not know about the frequency of performance of BSE and 78.8% are not aware it helps for early detection of cancer (Sanchez-Urdanta, et al.,2020). However, most of the respondents 17 (56.7%) did not know how to perform it before educational intervention. The post-intervention results revealed that the level of knowledge of BSE increased among the respondents as it increased to 27 (90%) after the respondents declared that they were aware of BSE.

From the first hypothesis stated, the result of this study shows that there is significance relationship between the pre-intervention knowledge of breast cancer of the women and their educational status (p-value=0.003, χ^2=13.929), with a p-value<s 0.05. Therefore, the null hypothesis is rejected.

The result of this study shows that there is no significance relationship between the post-intervention knowledge of breast cancer of the women and their educational status (p-value=0.067, χ^2=7.159), with a p-value >0.05. Therefore, the null hypothesis is not rejected.

V. Conclusion

From the above findings, the study population had inadequate awareness and knowledge at baseline which was improved significantly after educational intervention. this study reveals that there is need to increase awareness on breast cancer as well as performance of breast-self-examination (BSE). Based on the findings of this study, it is recommended that awareness campaign and training as well as seminars on breast cancer and breast self-examination should be done among different population/groups in the society. Nurses and other health care professionals should always educate women on breast self-examination techniques and how to detect abnormality on time.Studies should be conducted to investigate further effect of educational intervention in the prevention of breast cancer among adolescents, also on the factors influencing breast cancer screening among women.

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