
KNOWLEDGE AND PRACTICE OF BREAST SELF EXAMINATION AMONG FEMALE SECONDARY SCHOOL STUDENTS IN OWERRI EDUCATION ZONE 2, IMO STATE

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ABSTRACT

A large number of women in Imo State struggling to survive breast cancer pass through secondary school and are probably unaware of this deadly disease. Early detection of breast cancer through breast self-examination from the secondary school level would have prevented the situation of going to hospital lately. This prompted the investigation into knowledge and practice of Breast Self Examination among female secondary school students in Owerri Education Zone 2 of Imo state. Four research questions guided the study and four null hypotheses were tested at 0.05 level of significance. Descriptive survey research design was adopted for the study. The population of the study comprised 5,065 students in public secondary schools in Owerri Education Zone 2 of Imo state. A sample size of 814 students was drawn for the study using stratified random sampling technique. A-researcher developed instruments titled “Knowledge of Breast Self Examination Scale (KBSES)” and Breast Self Examination Practices Questionnaire (BSEPQ) were used for data collection. The instruments were subjected to face and content validation by three experts, two from the Department of Human Kinetic and Health Education, and one from the Department of Educational Foundations, Nnamdi Azikiwe University. Cronbach alpha was used for a test of internal consistency of the instrument and it yielded overall reliability co-efficients of 0.91 for KBSES and 0.86 for BSEPQ. Mean and standard deviation were used to answer the research questions and t-test was used to test the hypotheses. The findings of the study revealed among others that rural and urban female secondary school students possessed low knowledge of circle and lines methods of breast self-examination in Owerri Education Zone 2 of Imo State. It was also observed that circle and lines methods of breast self-examination are rarely practiced among rural and urban female secondary school students in Owerri Education Zone 2 of Imo State. Based on the findings, it was recommended among others that the principals should integrate breast self-examination methods and practices into orientation programmes of newly admitted female students to enable them acquire early knowledge of procedures of conducting it.

Keywords: Knowledge, Practice, Breast Self Examination, Female Students

Introduction

One of the contemporary issues of the society is breast problems among women. According to Global Cancer Observatory (2018), Nigeria recorded 115,950 cases of cancer; 22.7% of that was diagnosed of breast cancer, 12.9 % were diagnosed of cervical cancer, 11.3% were diagnosed of prostate cancer, 5.8% were diagnosed of colorectum cancer, 4.6% were diagnosed of Non-Hodgkin Lymphoma and 42.7% were diagnosed of other cancers types. Nigeria has been reported to have high breast cancer mortality rate in 2022; with a prevalent rate of 69.1 per 100,000 and mortality rate of 6.23 per 100, 000 (Institute of Health Metrics Evaluation cited in Atara, Mojisola and Oluwaponmile, 2022). Basically, this shows that breast cancer is one of the common cases of cancer in Nigeria. The key to reducing breast problems lies in early detection through breast self-examination.

Breast self-examination (BSE) is a procedure in which a woman inspects and examines her breasts and their accessory structures for evidence of change that could indicate an abnormal process. Breast Self Examination is the inspection of a woman's breasts by herself for detection of any change in shape, size or abnormal lumps. Lafiaji-Okuneye, Taiwo and Salaudeen (2022) defined breast self-examination (BSE) as a method of breast examination in which a woman inspects and examines her breasts for lumps and changes in shape and colour as a result of abnormal growth of cells in the mammalian gland. According to Ofonime (2019), breast self-examination is a visualization and palpation of the breast by oneself for lumps, shape, texture, size and contour. Breast self-examination (BSE) is a screening method in which a woman assesses her breasts for possible lumps, abnormalities or swelling. Mazzini (2016) noted that breast self-examination consists of bringing the arms towards to the back of the neck, alternating hands under the head in an opposite way, which permits, thorough inspection and observation, palpate with the fingertips circular shape breasts to locate precociously any suspicious breast lumps.

Breast lump usually appears as a firm and painless lump in the breast which may result to cancer later. Breast cancer which constitutes a major disease increases in incidence with age and affects more females than males in Niger. The incidence of breast cancer tends to be higher than other forms of cancer (Uchendu, 2020). World Health Organization (WHO) (2021) reported that breast cancer is currently the most common type of cancer worldwide, with 2.26 million cases recorded in 2020. Furthermore, WHO (2021) noted that the breast cancer was also the 5th leading cause of cancer deaths worldwide in 2020, with 685,000 deaths attributed to it. The cases of breast cancer are increasing in Nigeria. For instance, Jedy-Agba et al. cited in Mashi (2020) reported that the incidences of breast cancer in Nigeria have risen from 15.3 per 100,000 in 1976 to 33.6 per 100,000 in 1992 to 52.1 per 100,000 in 2012).

Breast cancer can be associated with genetic, hormonal, or biochemical factor. Breast cancer among adolescents and young adult females aged 15-39 years is associated with hormonal factors (Atara, Mojisola and Oluwaponmile, 2022). Currently, these risk factors are divided into primary, secondary, and other risk factors in an attempt to identify who is at higher risk for developing breast cancer. However, it should be noted that more than 75% of women with new diagnosed breast cancer have no identifiable risk factors (Joel, 2013). Family history is the most recognized primary risk factor for breast cancer. To support this, Oyewale et al (2017) reported that the family history is widely recognized as an important risk factor for breast cancer. Risk due to family history is divided between a genetically inherited predisposition or an increased familial incidence. Secondary risk factors include obesity in postmenopausal women, exposure to therapeutic ionizing radiation, hormonal and

reproductive factors (Pan American Health Organization, 2021). Other factors in determining a woman's risk for breast cancer include prolonged use of postmenopausal estrogen replacement therapy (greater than 10 years), high fat diet, and alcohol use.

Timely discovery of cancer of the breast could be achieved by various methods of BSE. Several scholars have identified breast self-examination methods as follow: circle, lines and Wedge (Abdul- Lateef and Shabaan, 2019; World Health Organization, 2006). The three breast self-examination methods adopted for the study were circle and lines methods.

The Circle method involves fingers slowly from the outer edge of the breast and around the whole breast in a circle. Then, work towards the nipple making smaller and smaller circles. One is required to also check the areas under the arm and the upper chest. Abdul-Lateef and Shabaan (2019) noted that the circle method begins at the outer edge of the breast through the use of the flat part of the fingers moving in circles slowly around the breast gradually to make smaller and smaller circles toward the nipple. Furthermore, Abdul- Lateef and Shabaan asserted that one has to be sure to cover the entire breast and check behind the nipple. Zakir (2017) noted that in circle method, the flat surface of the middle three fingers is placed against the outer edge of the breast and press gently in small circular motions around the breast. The author added that fingers in smaller circles edge around the breast is moved until them reach the nipple (one must try not to lift the fingers off the breast as they are moved from one point to another), before squeezing the nipple.

The lines method begins by moving the fingers up and down starting in the underarm area and covering the whole breast area. To buttress this, Abdul- Lateef and Shabaan, (2019) stressed that the lines method of breast self-examination begins by placing the fingers at outer edge of the breast and place downward until they are below the breast. Abdul-Lateef and Shabaan further asserted that the next is to move the fingers slightly toward the middle and slowly move back up and go up and down until you go over the entire breast area. Similar to this, World Health Organization (WHO) (2006) pointed out that it starts by placing the finger at the underarm area of the breast, moving the fingers downward slowly until she reaches the area below the breast. Continuing, WHO asserted that the fingers are then moved slightly towards the middle and the process begins again, this time moving the hand upwards over the breast and this process continues up and down until the whole surface of the breast and underarms is examined. This method of breast self-examination could only be done by one with sufficient knowledge of it.

Knowledge is awareness and understanding of a subject. According to Iweama, Umeakuka and Aguocha (2020), knowledge is the information obtained from accurate facts and understanding of something through experiences, discussions and learning. Tura and Demissie (2019) stressed that the knowledge of breast self-examination helps a woman to assess her own breasts for lumps, alteration in size or shape of the breast or any other changes in the breast or underarm. Iweama, Umeakuka and Aguocha (2020) asserted that the knowledge of BSE which leads to prevention of diseases related to the breast is very crucial. The prevalence of breast cancer is probably due to the fact that some students who are knowledgeable of BSE methods fail to put them into practices.

Practice is actual act of performing something. The practice of breast self-examination has been known to motivate women to take care of their own health invariably increasing their awareness (World Health Organization, 2018). Practice of BSE is the act and ability to identify changes that occur in the breast relative to size, colour or shape. Ossai, Azuogu, Ogaranya, Ogenyi, Enemor and Nwafor (2021) stressed that a woman who correctly practices

breast self-examination has a greater chance of detecting a lump at the early stage, hence increasing the chances of survival. The practice of BSE is the least expensive and easiest method of early detection of breast cancer. To buttress this, Dinegde, Demie and Diriba (2020) noted that the practice of breast self-examination is a convenient and no cost means of detecting early breast cancer. Similar to this, Lafiaji-Okuneye, Taiwo and Salaudeen (2022) asserted that the breast self-examination is a cheap and easy to practice method of detecting mad cells in the breast tissue, as early detection has been proven to increase the chance of survival of breast cancer. Ofonime (2019) stressed that most common barrier to the practice of BSE in Nigeria is insufficient knowledge of BSE technique.

There appear to insufficient knowledge and practice of breast self examination among adult women and female students at early stage which could account to the in prevalence of breast cancer cases in hospitals in Imo State. In other words, the irregular practices of breast self-examination may account for late presentation of cancer cases in hospital. To buttress this, Elemile, Ayamolowo, Owolabi and Ighrakpata (2020) pointed out that the poor knowledge and practice of BSE is the reason why the presentation of breast cancer usually comes up very late among the Nigeria women that have been affected by this illness. Iheanacho, Ndu and Emenike (2013) noted that breast cancer patients generally have low rates of survival due to being diagnosed at advanced stages raising critical issues about prevention and avoidance of risk factors in Nigeria irrespective of their location.

The location of students may influence their knowledge and practices of breast self-examination. Chepkwurui and Iramilot (2020) observed that the females in urban areas may be knowledgeable and more likely to practice breast self-examination because information can easily be accessed through televisions, newspapers and the internet; in addition those in urban areas are more informed about the current advances in disease prevention. On the contrary, Nitin, Naw and Miguel (2015) reported that females in rural and urban areas were aware of breast self-examination and did not differ significantly in their practices of breast self-examination. However, the assertions was not made on empirical nor in relation to the environmental conditions of Owerri Education Zone 2, Imo State where the study was carried out and thus, the need for use of location as moderating variables. Some secondary school female students in different locations who appear to rarely practice BSE in Owerri Education Zone 2 could be to insufficient knowledge.

Statement of the Problem

Breast self examination is an awareness to prevent breast cancer among women. Breast cancer is a major public health problem in many parts of the world. It is a major health concern in almost every region of Africa and Nigeria in particular because it is one of the most common diseases among women. A breast self examination can help women detect cysts or other benign (noncancerous) breast problems between checkups. It can also help some women detect breast cancer. It is easy to perform breast self-examination, and it only takes a few minutes.

Most female secondary school students in Owerri Education Zone 2 seem to rarely examine breast cancer at early stage probably due to the irregular or poor practice of breast self-examination. A large number of women in Imo State struggling to survive breast cancer pass through secondary school and are probably unaware of this deadly disease. Breast cancer is one the contemporary problems in Imo State which constituted the problem of the study that necessitated the researcher to determine the knowledge and practice of Breast Self Examination among female secondary school students in Owerri Education Zone 2 of Imo

state.

1.3 Purpose of the Study

The main purpose of the study was to determine the knowledge and practice of Breast Self Examination among female secondary school students in Owerri Education Zone 2 of Imo state. Specifically the study, ascertained:

1. The mean knowledge scores of circle method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.
2. The mean knowledge scores of lines method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.
3. The rural and urban female secondary school students in Owerri Education Zone 2 of Imo State practice of circle method of breast self-examination.
4. The rural and urban female secondary school students in Owerri Education Zone 2 of Imo state practice of lines method of breast self-examination.

Research Questions

The following research questions guided the study:

1. What are the mean knowledge scores of circle method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State?
2. What are the mean knowledge scores of lines method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State?
3. How do the rural and urban female secondary school students in Owerri Education Zone 2 of Imo State practice circle method of breast self-examination?
4. How do the rural and urban female secondary school students in Owerri Education Zone 2 of Imo State practice lines method of breast self-examination?

Hypotheses

The following hypotheses were formulated and tested at 0.05 level of significance;

1. There is no significant difference in the mean knowledge scores of circle method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.
2. There is no significant difference in the mean knowledge scores of lines method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.
3. There is no significant difference in the rural and urban female secondary school students in Owerri Education Zone 2 of Imo State practice of circle method of breast self-examination.
4. There is no significant difference in the rural and urban female secondary school students in Owerri Education Zone 2 of Imo State practice of lines method of breast self-examination.

METHODS

Descriptive survey design was adopted for the study. The study was carried out in Owerri Education Zone 2 in Imo State. The choice for the area of the study is because of large number of female adolescents who require knowledge and practice of breast self-examination to prevent breast cancer. The population of the study is made up of 5,065 public secondary school students among the 49 public secondary schools in Owerri Education Zone 2 of Imo

State, The sample size for the study consisted of 814 respondents drawn for the study using stratified random sampling technique.

A-researcher developed instruments titled “Knowledge of Breast Self Examination Scale (KBSES)” and Breast Self Examination Practices Questionnaire (BSEPQ)’ were used for data collection. KBSES has two Parts namely I and II. Part I of the instrument is designed to collect information on the biographic data of respondents such as location. Part II contained 12 multiple choice objective test items on knowledge of breast self examination. BSEPQ has two Sections namely: A and B. Section A had six items on practice of circle method of breast self examination and Section B had six items on practice of line method breast self examination. The instrument therefore contains a total of 12 items all of which are structured on a four point rating scale of Always, Sometimes(S), Rarely (R) and Not at All (N) weighted 4, 3, 2 and 1 respectively. The instrument was subjected to face and content validation by three experts, two in the Department of Human Kinetic and Health Education, and one in Measurement and Evaluation in the Department of Educational Foundations, all in the Faculty of Education, Nnamdi Azikiwe University. The suggestions of the experts were applied in producing the final instruments. The reliability of the instruments was established using Kuder-Richardson formular 20 and Cronbach alpha. Kuder-Richardson formula 20 was chosen for the reliability test of the KBSES because items of multiple-choice objective tests are dichotomously scored and with heterogeneous difficulty level, while Cronbach alpha was used for the BSEPQ because the items are polytomously scored. Consequently, the instruments were administered once to 30 female secondary school students in Owerri Education Zone 1. The overall reliability of the instruments were found to be 0.91 for KBSES and the co-efficient for Sections A, B and C of BSEPQ were 0.87, 0.83 and 0.88 respectively and overall coefficient was 0.86. This is in line with Jain and Angural (2017) who recommended that a co-efficient correlation of 0.75 and above should be considered high enough to judge an instrument as reliable.

Direct method of data administration was utilized by the researcher together with five research assistants who are secondary school teachers in Education Zone 2 of Imo State. The research assistants were briefed by the researcher on the nature and purpose of the study and this enabled them to have a good knowledge about the study in order to answer questions and clarifications raised by the respondents. A total of 814 copies of the questionnaire were distributed and 803 were properly filled and successfully retrieved indicating 99% return rate. At the end of the exercise, successfully completed and retrieved copies of the instruments were used for data analysis. Mean and standard deviation were used to answer research questions and t-test to test the hypotheses. The decision on the research questions were based on the principle of real mean limits of 3.50-4.00 for always, 2.50-3.49 for sometimes, 1.50-2.49 for rarely and 1.00-1.49 for not at all. In taking decisions on the null hypotheses, if p-value was equal to or greater than significant value of 0.05, the null hypothesis was accepted and the difference was taken to be not statistically significant, but if otherwise, the null hypothesis was rejected and the difference was taken to be statistically not significant.

RESULT

Research Question 1: What are the mean knowledge scores of circle method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State?

Table 1: Mean Knowledge Scores of Circle Method of Breast Self-Examination Possessed by Rural and Urban Female Students

Location	N	Mean	Standard Deviation	Remarks
Rural	302	4.65	2.14	Low Knowledge
Urban	501	5.77	3.63	

The results of data analysis presented on Table 1 shows that the mean and standard deviation knowledge scores of circle method of breast self-examination possessed by rural and urban female students are 4.65; 2.14 and 5.77 and 3.63 respectively. The mean scores indicated that female students in urban areas are more knowledgeable of circle method of breast self-examination than their counterparts in rural areas. The low mean scores of 8.65 and 12.77 indicates that rural and urban female secondary school students possessed low knowledge of circle method of breast self-examination in Owerri Education Zone 2 of Imo State

Research Question 2: What are the mean knowledge scores of lines method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State?

Table 2: Mean Knowledge Scores of Lines Method of Breast Self-Examination Possessed by Rural and Urban Female Students

Location	N	Mean	Standard Deviation	Remarks
Rural	302	3.10	2.08	Low Knowledge
Urban	501	4.33	1.71	

As shown on Table 2, the mean and standard deviation knowledge scores of lines method of breast self-examination possessed by rural and urban female students are 3.10; 2.08 and 4.33 and 1.71 respectively. The mean scores revealed that that female students in urban areas are more knowledgeable of lines method of breast self-examination than their counterparts in rural areas. The low mean scores of 3.10 and 4.33 indicates that rural and urban female secondary school students possessed low knowledge of lines method of breast self-examination in Owerri Education Zone 2 of Imo State.

Research Question 3: How do the rural and urban female secondary school students in Owerri Education Zone 2 of Imo State practice circle method of breast self-examination?

Table 3: Mean Scores of Circle Practice of Breast Self-Examination Possessed by Rural and Urban Female Students

S/N	ITEMS	Rural (N =302)			Urban (N =501)		
		Mean	SD	Decision	Mean	SD	Decision
1	Using the flat part of my fingers to make smaller circles toward the nipple.	2.42	1.10	Rarely	2.45	1.09	Rarely
2	Moving my finger, beginning from the outermost top of my breast	2.39	1.02	Rarely	2.41	1.07	Rarely
3	Moving my fingers slowly around outside area of my breast in a large circle	2.44	1.11	Rarely	2.47	1.09	Rarely
4	Firmly pressing my breast without skipping any area	2.56	1.02	Sometimes	2.59	1.12	Sometimes
5	Gently pressing my nipple to feel the tissues under the skin	2.58	1.02	Sometimes	2.56	1.10	Sometimes
6	Using pads of my three fingers in checking the entire breast	2.34	0.91	Rarely	2.36	1.05	Rarely
Cluster Mean		2.46	1.03	Rarely	2.47	1.09	Rarely

As shown on Table 3, the mean ratings of both rural and urban female students for items 1, 2, 3 and 6 fell below the acceptable mean score of 2.50 indicating female students rarely practice circle method practice of breast self-examination for the items. On the other hand, items 4 and 5 have mean scores above the cut off mean of 2.50 for both rural and urban female students and this indicated sometimes practice circle method of breast self-examination for the items.

The overall standard deviation scores of both rural and urban students are 1.03 and 1.09 and this indicates that there is homogeneity amongst their responses indicating a similar consensus of opinion. The cluster mean of 2.46 for rural female students and 2.47 for urban female students which are below 2.50 indicated that circle method of breast self-examination is rarely practiced among rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.

Research Question 4: How do the rural and urban female secondary school students in Owerri Education Zone 2 of Imo State practice lines method of breast self-examination?

Table 4: Mean Scores of Lines Practice of Breast Self-Examination Possessed by Rural and Urban Female Student

S/N	ITEMS Lines Practice of BSE	Rural (N =302)			Urban (N =501)		
		Mean	SD	Decision	Mean	SD	Decision
7	Moving my finger, beginning from the underarm area of your breast	2.40	1.09	Rarely	2.43	1.13	Rarely
8	Slowly moving my fingers down from the underarm area until they are below my breast	2.44	0.97	Rarely	2.41	1,05	Rarely
9	Moving my fingers closer toward my nipple	2.51	1.15	Sometimes	2.54	1.04	Sometimes
10	Using of inner surfaces of the fingers for a systematic and careful feel of my breast	2.46	1.00	Rarely	2.45	0.94	Rarely
11	Using the same motion to move my fingers closer to nipple and backward	2.36	1.14	Rarely	2.34	1.08	Rarely
12	Moving my hand upwards over the breast up and down until the whole surface of the breast is examined	2.31	1.07	Rarely	2.37	1.12	Rarely
Cluster Mean		2.41	1.07	Rarely	2.42	1.06	Rarely

From Table 4, all items with exception of item 5 have mean scores above the cut off point of 2.50 for both rural and urban secondary school students. This indicated they rarely practice five out of the six items listed as lines method practice of breast self-examination.

The overall standard deviation scores of both rural and urban students are 1.03 and 1.09 which show that their responses are close and this indicates homogeneity in their responses. The cluster mean of 2.41 for rural female students and 2.42 for urban female students which are below 2.50 indicated that lines method of breast self-examination is rarely practiced among rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.

Ho₁: There is no significant difference in the mean knowledge scores of circle method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.

Table 5: The t-test Summary of Analysis of no Significant Difference in the Mean Knowledge Scores of Circle Method of Breast Self-Examination Possessed by Rural and Urban Female Students

Location	N	X	SD	p-value	Df	∞	Remark
Rural Students	302	6.65	2.14	0.58	801	0.05	Not Significant
Urban Students	501	5.77	3.63				

Data presented on Table 5 revealed that the p-value of 0.58 is greater than t 0.05 level of significance and 801 degree of freedom. Thus, the null hypothesis is accepted. Therefore, there is no significant difference in the mean knowledge scores of circle method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.

Ho₂: There is no significant difference in the mean knowledge scores of lines method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.

Table 6: The t-test Summary of Analysis of no Significant Difference in the Mean Knowledge Scores of Lines Method of Breast Self-Examination Possessed by Rural and Urban Female Students

Location	N	X	SD	p-value	Df	∞	Remark
Rural Students	302	3.10	2.08	0.57	801	0.05	Not Significant
Urban Students	501	4.33	1.17				

Data presented on Table 6 revealed that the p-value of 0.57 is greater than t 0.05 level of significance and 801 degree of freedom. Thus, the null hypothesis is accepted. Therefore, there is no significant difference in the mean knowledge scores of lines method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo State.

Ho₃: There is no significant difference in the rural and urban female secondary school students in Owerri Education Zone 2 of Imo state practice of circle method of breast self-examination

Table 7: The summary of t-test Analysis of no Significant Difference in the Mean Scores of Circle Practice of Breast Self-Examination by Rural and Urban Female Students

Location	N	X	SD	p-value	Df	∞	Remark
Rural Students	302	2.46	1.03	0.69	801	0.05	Not Significant
Urban Students	501	2.47	1.09				

Data presented on Table 7 revealed that the p-value of 0.69 is greater than t 0.05 level of significance and 801 degree of freedom. Thus, the null hypothesis is accepted. Therefore, there is no significant difference in the rural and urban female secondary school students in Owerri Education Zone 2 of Imo state practice of circle method of breast self-examination.

Ho₄: There is no significant difference in the rural and urban female secondary school students in Owerri Education Zone 2 of Imo state practice of lines method of breast self-examination.

Table 8: The summary of t-test Analysis of no Significant Difference in the Mean Scores of lines Practice of Breast Self-Examination by Rural and Urban Female Students

Location	N	\bar{X}	SD	p-value	Df	α	Remark
Rural Students	302	2.41	1.07	0.20	801	0.05	Not Significant
Urban Students	501	2.42	1.06				

Data presented on Table 8 revealed that the p-value of 0.20 is greater than t 0.05 level of significance and 801 degree of freedom. Thus, the null hypothesis is accepted. Therefore, there is no significant difference in the rural and urban female secondary school students in Owerri Education Zone 2 of Imo state practice of lines method of breast self-examination.

Discussion of Findings

The finding of the study showed that rural and urban female secondary school students possessed low knowledge of circle method of breast self-examination in Owerri Education Zone 2 of Imo State. This is in line with the finding of Doshi (2012) which indicated that female students have low knowledge of circle methods of breast self examination. The possible explanation for the agreement in findings is probably to due the fact that secondary school students were used in the two studies. This disagreed with the finding of Iweama, Umeakuka and Aguocha (2020) which indicated that female non-teaching staff of university had moderate level of knowledge of circle method of breast self examination. The possible explanation for the disagreement in findings is probably to due the fact that participants of the studies differ as female non-teaching staff of university are more matured and experienced which tend to make have more knowledge of circle method of breast self examination. Female secondary school students in rural and urban areas are still adolescents which could possibly account for the low knowledge of circle method of breast self-examination.

Further result indicated that there is no significant difference in the mean knowledge scores of circle method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo state. This is in disagreement with the finding of Shirley and Okoronkwo (2022) which revealed that there was a significant difference in the knowledge of circle method of breast self-examination between rural and urban secondary school female students. This disagreement could be attributed to difference in geographical locations with varying societal and cultural norms guiding females in health-related activities. The possible explanation for the no significant difference in the mean knowledge scores of circle method of breast self-examination possessed by rural and urban female secondary school students may be inferred to the characteristics of the study participants who are all still adolescents.

The finding of the study indicated that rural and urban female secondary school students possessed low knowledge of lines method of breast self-examination in Owerri Education Zone 2 of Imo State. This agreed with the result of Doshi (2012) which showed that female students have low knowledge of lines method of breast self examination. This agreement in findings could be attributed to the fact that the two studies were conducted in

secondary schools using students as the participants. This is in disagreement with the finding of Ohaeri and Aderigbigbe (2019) which showed that women have adequate knowledge of lines method of breast self-examination. This disagreement in findings could be attributed to the fact that the two studies were conducted in different organizations. The possible explanation for knowledge of lines method of breast self-examination among rural and urban female secondary school students is due to poor creation of awareness on the lines method of breast self-examination. Most of rural and urban female secondary school students have possibly not heard of the method which has limited their knowledge of it.

It was also revealed that there is no significant difference in the mean knowledge scores of lines method of breast self-examination possessed by rural and urban female secondary school students in Owerri Education Zone 2 of Imo state. This contradicted the finding of Shirley and Okoronkwo (2022) which revealed that there was a significant difference in the knowledge of lines method of breast self-examination between rural and urban secondary school female students. The possible explanation for the contradiction in findings could be to difference in geographical locations where cultural belief and social orientation on the application of lines method of breast self-examination vary.

The finding of the study showed that circle method of breast self-examination is rarely practiced among rural and urban female secondary school students in Owerri Education Zone 2 of Imo State. This supported the finding of Bellgam and Buowari (2012) which revealed that there was low practice of wedges method of breast self examination among women. This is also in conformity with the finding of Usman, Olanrewaju and Usman (2020) which revealed that the practice of circle method of breast self-examination was low among female secondary school students. This agreement in findings is probably due to the fact that the two studies were conducted at secondary school level in the same country, where maturity level of students is similar. This contradicted the finding of Agbonifoh (2016) which showed that there was high level of practice of circle method of BSE among the female undergraduates in tertiary institution. The contradiction in findings may be attributed to difference in geographical location in which the two studies were conducted. The possible explanation for the findings of low practice of circle method of breast self-examination is due to the fact that senior secondary school students are usually below the ages of 18 years and rarely exposed to issues concerning breast cancer and risks of the disease.

It was also found out that there is no significant difference in the rural and urban female secondary school students in Owerri Education Zone 2 of Imo state practice of circle method of breast self-examination. This is in line with the finding of Ashraf, Sultan, Rahi, Mir, Ali and Bilal (2020) who indicated that there is no significant difference in the practices of circle method of breast self-examination among rural and urban female college students. This disagreement could be attributed to the fact that similar measures are put in place in different geographical locations to encourage routine practices of circle method of breast self-examination in rural and urban areas.

It was found that the lines method of breast self-examination is rarely practiced among rural and urban female secondary school students in Owerri Education Zone 2 of Imo State. This is in agreement with the finding of This also supported that the finding of Bellgam and Buowari (2012) which revealed that there was low practice of lines method of breast self examination among women. This disagreed with the finding of Ossai, Azuogu, Ogaranya, Ogenyi, Enemor and Nwafor (2021) which revealed that that majority of the undergraduates had good knowledge of lines method of breast self-examination method. This agreement in findings could be attributed to the fact that the two studies were conducted in different levels

of education. The likely reason for low practice of lines methods of breast self-examination among female students is poor awareness and not knowing how to apply the method. The finding indicated the practices of lines method of breast self-examination is low as regards to female students' act of moving their finger, beginning from the underarm area of your breast down to underarm area until they are below their breast to carefully feel the breast upwards and down until the whole surface of the breast is examined.

It was also showed that there is no significant difference in the rural and urban female secondary school students in Owerri Education Zone 2 of Imo state practice of lines method of breast self-examination. This agreed with the finding of Ashraf, Sultan, Rahi, Mir, Ali and Bilal (2020) who indicated that there is no significant difference in the practices of lines method of breast self-examination among rural and urban female students. The agreement in findings could be attributed to the fact that the two studies utilized students as the participants of the study.

Conclusion

Based on the findings, it was concluded that female students possess low knowledge and rarely practice of Breast Self Examination in Owerri Education Zone 2 of Imo state. Most female senior secondary school students in rural and urban areas probably engage in low practice of the various methods of breast self-examination due to poor knowledge and absence of signs of breast diseases or anomalies. Female secondary school students can rarely examine their breasts to easily detect any normal changes or tumor which require medical attention. The low knowledge and practice of Breast Self Examination among female secondary school students undermine early detection of breast cancer and effective treatment which reduce the likelihood of survival from the disease.

Recommendations

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

1. The principals should integrate breast self-examination methods and practices into orientation programmes of newly admitted female students to enable them acquire early knowledge of procedures of conducting it.
2. Ministry of Education should introduce breast self examination methods and practices into secondary school curriculum to enable female students acquire knowledge and practice them at their various homes.
3. School health personnel should organise regular interactive sessions with female students to create awareness of the various breast self-examination methods and practices.
4. Ministry of Health should embark on public enlightenment campaign on breast self-examination methods and practices through mass media to increase students' knowledge of practicing it.

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