

**KNOWLEDGE OF BREAST CANCER AND PRACTICE OF SELF-BREAST  
EXAMINATION ENHANCEMENT  
STRATEGIES AMONG FEMALE UNDERGRADUATES IN LAGOS  
STATE UNIVERSITY**

**OGUNBAMOWO, WALIU BABATUNDE (MPH, PhD); OLADIPUPO, B.O. (PhD);  
ASHON D.O.; LIGALI, L.A. & HASSAN, A.A.**

**Department of Human Kinetics, Sports and health Education,  
Lagos State University.**

**Email: [waliu.ogunbamowo@lasu.edu.ng](mailto:waliu.ogunbamowo@lasu.edu.ng), [Danselworld95@yahoo.com](mailto:Danselworld95@yahoo.com)**

**Phone: +2348023439881, +2349015060217.**

**Abstract**

*This study investigated breast cancer and practice of self-breast examination enhancement strategies among female undergraduate students in Lagos State University. This study was guided by two research questions and hypotheses. Cross-sectional research survey was adopted and population for the study consisted of female undergraduates in Lagos State University. The study sample comprised 300 female undergraduate students spread across six faculties in Lagos State University, Ojo and using convenience sampling techniques for respondents' selection. Data were collected using a self-structured questionnaire titled "Breast Cancer and Practice of Self-breast Examination Questionnaire" (BCPSBEQ). The reliability of the instrument was achieved using the test-retest method, while Cronbach alpha test and r-value of 0.86. Data collected were analysed using frequency count and percentages, while inferential statistic of chi-square was used to analyze the questionnaire items. The findings of this study revealed that breast cancer and practice of self-breast examination enhancement strategies influences female undergraduates in Lagos State University. It was recommended among others that higher institutions include breast cancer and breast self-examination as topics in health education studies in their institutions. Health educators and professionals should adopt and use the breast self-examination as it will help raise a very high level of breast cancer knowledge and enhance the practice of self-breast examination among female undergraduate.*

**Keywords:** Breast Cancer, Enhancement Strategies, Female Undergraduates, Self-Breast Examination.

**Introduction**

Breast cancer remains a major health challenge all over the world, affecting women in both the developing and developed countries. The incidence of Breast cancer is even growing in regions of the world (such as Asia and Africa) that had a low incidence of the disease in the past. Based on studies during 1975 - 2014, Asia and Africa have experienced a more rapid rise in the annual incidence rate of Breast cancer than that of North America and Europe (Olayide, Halimat, Samuel, Ganiyu & Soliu, 2017). According to Catherine & Augus, (2012), the incidence of Breast cancer is increasing in most countries of Asia and Africa. Breast

cancer is a public health challenge that is increasing throughout the world especially in developing countries, including Nigeria and as such awareness on Self-breast examination must be created. Breast cancer is the most common malignant neoplasm among women. Breast cancer is the leading type of cancer in women. It is and still remains one of the cancers affecting all age groups of women worldwide. Continuing, they stated that globally, over one million new cases of breast cancer among females are detected each year (National Institute of Clinical Excellence 2016). According to American Cancer Society (ACS) (2013), National Cancer Institute estimated that one in eight women born today will be diagnosed with breast cancer at some time in her life. This is a dramatic increase from the rate in 1977, when the rate was one in fourteen women (George, Allo, Amoo & Olonade, 2019).

Adebamowo & Ajayi, (2015) stated that breast cancer is the second principal cause of cancer deaths among women in the world. Breast cancer incidence is growing faster in age groups (between 36 and 44 years) that had a low incidence of the disease. The incidence of breast cancer among younger women (16- 35years) seems to be on the increasing. Kudzawu, Agbokey, & Ahorlu, (2016) reported that there has been an alarming increase in the incidence of breast cancer among young women since, 2012. Breast cancer is a deadly disease, which is better prevented than cured. Knowledge of breast cancer issues can help women to prevent the disease. According to Smyke (2017) one third of cancers could be prevented if women are armed with the right knowledge. Catheine & Augus, (2012) opined that breast cancer was seen more among women who lack the knowledge of breast cancer concept, risk factors, signs and symptoms, and preventive measures, while Ogunbamowo & Oshiname, (2018) stated that a significant number of women present with advanced stages of breast problems due to lack of information, knowledge and awareness on Breast cancer risk factors, symptoms and preventive measures.

Azubike, (2014) opined that one of man's greatest enemies is ignorance, but agrees that knowledge will give one the necessary power, and put one in the appropriate frame of mind to practise healthy lifestyles and avoid diseases.

George, Allo, Amoo & Olonade, (2019) defined knowledge as the fact of understanding events, issues or objects that are acquired either through learning or experiences. The role of knowledge and information in the process of performing certain practices conducive for improved health has gained increased recognition. Knowledge can be empowering in that it enables one to make informed decision regarding health. One's knowledge about health and disease prepares the way for meaningful healthy lifestyle. In this study, knowledge is defined, as the level of information female undergraduates in higher institutions have on concept of breast cancer, breast cancer risk factors, signs, symptoms and preventive measures.

Higher institutions are tertiary schools that train secondary school leavers to become qualified specialists and scientific and pedagogical personnel for various branches of the economy, science and culture. Catheine & Augus, (2012) defined higher institutions as universities or similar educational establishments that offer education to students, especially at degree level. A higher institution can admit both male and female undergraduates. Higher institutions include universities, colleges and polytechnics. In this present study, higher institutions are conceptualized as post-secondary institutions in Lagos State that offer education and training to undergraduates. Undergraduates are students at a college or university, who have not received a first degree and especially a bachelor's degree. Ezugwu, (2010) defined undergraduates as students who are doing a university course for first degree, while Catherine & Angus, (2012) defined it as a university student who has not yet taken a first degree. Ugwu, (2012) conceptualized an undergraduate as a person studying towards

obtaining first degree in a tertiary institution. Undergraduates could be male, female or both male and female students. In the present study, undergraduates were conceptualized as female students in universities and colleges in Lagos State, studying for their bachelor's or first degree.

Female undergraduates' knowledge of Breast cancer is a prerequisite for them to implement desirable behavioural practices towards its prevention. Knowledge of breast cancer including its concept, risk factors, signs and symptoms, and preventive measures is seen as a factor in Breast cancer morbidity and mortality prevention in women (Birhane, Alemayehu, Anawte, Gebremariyam, Daniel, Addis & Negash, (2017). The practice of breast self-examination involves the woman herself looking at and palpating (feeling) each breast for possible lumps, distortions or swelling (Baxter, 2013). Breast self-examinations should be done monthly, and because breast tissues change at different times of the month, these breast self-examinations should be done at the same time of the month (ACS, (2012). Rasolm, Iqbal, Siddiqui, Ahsan, Mukhtar & Naqvi, (2019) stated that for pre-menopausal women, the ideal time is day 7 to day 10 of the menstrual cycle as breasts are least tender at that time, while post-menopausal women should perform breast self-examination at the same time of the month, every month. Despite the fact that female undergraduates could be affected by breast cancer, and the need for them to know about breast cancer and practices self-breast examination, few research studies have ascertained their knowledge of breast cancer and practice of self-breast examination. While numerous research studies have investigated breast cancer-related knowledge and self-breast examination practice of older adult women those who are age 45 and above, studies that have presented female undergraduates are few in Nigeria and virtually nonexistent, to the best knowledge of the researcher. Thus, Lagos State, has little or no documented data on the knowledge of breast cancer and practice of self-breast examination among female undergraduates. This study therefore examined the knowledge of breast cancer and practice of breast self-examination among female undergraduates in Lagos State University.

The purpose of the study includes the following:

1. Assess the level of knowledge of breast cancer and self-breast examination among female undergraduates in Lagos State University.
2. Examine the proportion of female undergraduates in Lagos State that practice self-breast Examination.

### **Research Questions**

The following research questions were answered for the study:

1. What is the level of knowledge of breast cancer and self-breast examination among female undergraduates in Lagos State University?
2. What is the practice of self-breast Examination among female undergraduate?

### **Research Hypotheses**

The following hypotheses tested at 0.05 level of significance guided the study:

1. There is no significant knowledge of breast cancer and self-breast examination among female undergraduates in Lagos State University
2. There is no significant practice of self-breast examination and those who don't practice self-breast examination among female undergraduates in Lagos State.

## Method

The cross-sectional research design was adopted for the study. This design was adopted because of its uniqueness, relevance and appropriateness for the study. The population for the study consisted of female undergraduates in Lagos State University. A multistage sampling technique was used. Convenience sampling technique was adopted for this study to select the six faculties from Lagos State University while the purposive sampling technique was used in selecting collectively 300 female undergraduates from the faculties. The research instrument used for the study was a self-developed modified questionnaire titled “Breast Cancer and Practice of Self-Breast Examination Questionnaire” (BCPSBEQ). The questionnaire was divided into two parts of section A and B. Section A contained demographic data of the respondents while Section B contained opinion questions of the respondents. The questionnaire adopted a four-point modified Likert scale of strongly agreed (SA), agreed (A), disagreed (D) and strongly disagreed (SD). The responses were scored based on 4, 3, 2 and 1 code. 4=SA, 3=A, 2=D, 1=SD. The instrument was validated by researcher’s supervisor and other lecturers in the Department of Human Kinetics, Sports and Health Education for content and construct related validity. The test-retest method of reliability was adopted. The reliability of the instrument was tested using the Cronbach alpha technique. An r-value of 0.79 was obtained and used as basis for the adoption of the instrument for data collection. Three hundred copies of the questionnaire were personally administered by the researcher with the help of three trained research assistants to the respondents and collected on the spot and data collection lasted for four (4) weeks among female undergraduate students in Lagos State University. Copies were checked to ensure that they were well completed before leaving the study area. Data collected were analyzed using descriptive statistics of frequency count and percentages for data representation while Chi-Square statistics was used to test all stated hypotheses at 0.05 level of significance. The Statistical Package for Social Science (SPSS) version 23 was used for analyzing the data collected.

## Results

### Data Presentation

**Table 1: Distribution of respondents by Age.**

| Age          | Frequency  | Percentage % |
|--------------|------------|--------------|
| 16-20        | 129        | 43.0         |
| 21-25        | 58         | 19.3         |
| 26-30        | 72         | 24.0         |
| Above 30     | 41         | 13.7         |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

Table 1 showed that approximately 43.0% (129) of the respondents were within the age bracket of 16-20 year, while 19.3% (58) were within the age bracket of 21-25 years and 24.0% (72) were 26-30, while 13.7% (41) were 30 years and above in age.

**Table 2: Distribution of Respondents by Gender.**

| Gender       | Frequency  | Percentage%  |
|--------------|------------|--------------|
| Male         | 0          | 0            |
| Female       | 300        | 100.0        |
| <b>Total</b> | <b>300</b> | <b>100.0</b> |

Table 2 showed that approximately 100% (300) of the respondents were females.

**Table 3: Distribution of respondents by Marital Status**

| <b>Marital Status</b> | <b>Frequency</b> | <b>Percentage%</b> |
|-----------------------|------------------|--------------------|
| Single                | 197              | 65.7               |
| Married               | 97               | 32.3               |
| Divorced              | 6                | 2.0                |
| <b>Total</b>          | <b>300</b>       | <b>100.0</b>       |

Table 3 showed that approximately 65.7% (197) of the respondents were single, while approximately 32.3% (97) were married, and 2.0% (6) of the respondents were Divorced.

**Table 4: Distribution of respondents by Family history of Breast cancer**

| <b>Family History</b> | <b>Frequency</b> | <b>Percentage%</b> |
|-----------------------|------------------|--------------------|
| Yes                   | 17               | 5.7                |
| No                    | 283              | 94.3               |
| <b>Total</b>          | <b>300</b>       | <b>100.0</b>       |

Table 4 showed that approximately 5.7% (17) of the respondents had history of breast cancer, while approximately 94.3% (283) have no recorded history of breast cancer in their family.

### **Testing Stated Hypothesis**

#### **Hypothesis One**

Hypothesis one states there would be no significant difference between knowledge on Breast cancer and self-breast examination among female undergraduates in Lagos State University. This hypothesis was tested using Chi-square at 0.05 level of significance. The result is presented on the table below.

**Table 5: Chi-square ( $X^2$ ) result of Knowledge on Breast cancer and self-breast examination among Female undergraduates in Lagos State University**

| <b>Responses</b> | <b>FRQ</b> | <b>%</b>     | <b>DF</b> | <b>LS</b> | <b>Cal <math>X^2</math></b> | <b>P value</b> | <b>RMK</b> |
|------------------|------------|--------------|-----------|-----------|-----------------------------|----------------|------------|
| SA               | 99         | 33.0         | 1         | 0.05      | 7.680                       | 0.006          | Sig        |
| A                | 176        | 58.7         |           |           |                             |                |            |
| D                | 0          | 0            |           |           |                             |                |            |
| SD               | 25         | 8.3          |           |           |                             |                |            |
| <b>TOTAL</b>     | <b>300</b> | <b>100.0</b> |           |           |                             |                |            |

From the result presented on Table 5 above. It could be observed that a significant Chi-square value ( $X^2=7.680$ ,  $p<0.05$ ) was obtained at 0.05 level of significance, therefore hypothesis one as stated above is hereby rejected. However, this implies outrightly that there was significant difference to the knowledge of Breast cancer and self-breast examination among female undergraduates in Lagos State University. The distribution of responses showed that 33.0% (99) of the respondents strongly agreed to have knowledge of breast cancer, while 58.7% (176) agreed and the remaining 8.3% (25) strongly disagreed to having knowledge. The hypothesis one above states that there will be no significant knowledge on Breast cancer and self-breast examination among female undergraduates in Lagos State University.

This finding disagrees with Akhtari-Zavare, Latiff, Juni, Said, Ismail, (2015) in their study on knowledge of female undergraduate students on breast cancer and breast self-examination in

Klang valley Malaysia where they carried out a cross sectional study on 820 female undergraduate students in four different public universities in Malaysia. Participants who were less than 20 years old, pregnant women and breast feeding mothers were excluded from this study. During this research, data were collected through a validated and reliable self-administered questionnaire. However, findings from this study indicated that the knowledge of female students about breast cancer in the four different schools were insufficient and showed a negative effect of low knowledge on the SBE practice. It was therefore suggested that breast health awareness campaign among young female is necessary to improve their knowledge.

Also, this finding agrees with Rasolm, Iqbal, Siddiqui, Ahsan, Mukhtar and Naqvi, (2019) in their study on Knowledge, attitude, practice towards breast cancer and self-breast examination among female undergraduate students in Karachi, Pakistan. This cross-sectional study was conducted for a period of four months in different universities of Karachi, Pakistan using a self-administered questionnaire. A total of 381 undergraduate students of medical and non-medical universities were included. The mean age of participants was  $20.45 \pm 3.67$  years. Ninety seven percent of the candidates had heard about breast cancer out of which only 65.4% were aware about its high prevalence rate in Karachi, Pakistan. A good proportion of candidates i.e., 78% of participants had good knowledge of breast self-examination out of which only 43.8% knew how to perform it but just 24.9% actually performed it. The study clearly affirmed that there was sufficient knowledge and attitude of breast cancer among female undergraduates in Karachi, Pakistan.

Finally, this finding disagrees with Motilewa, Ekanem and Ihesie, (2015) in their study on Knowledge of breast cancer and practice of self-breast examination among female undergraduates in Uyo, Akwa Ibom State, Nigeria. A cross sectional study on 401 female students selected by cluster sampling technique and data were collected using self-administered questionnaires containing items on the level of awareness of breast cancer and SBE got a high value among the respondents, 99% and 91.3% respectively; however, knowledge of risk factors for breast cancer was poor. The need for appropriate educational programme to improve knowledge of breast cancer and practice of SBE among the students for early detection and control of the disease was suggested.

### **Hypothesis Two**

Hypothesis two stated that there would be no significant practices of self-breast examination among female undergraduates in Lagos State University. This hypothesis was tested using Chi-square at 0.05 level of significance. The result is presented on the table below.

**Table 6: Chi-square ( $X^2$ ) result of Practice of Self-Breast Examination among Female Undergraduate Students in Lagos State University**

| Responses    | FRQ        | %            | DF | LS   | Cal $X^2$ | P value | RMK |
|--------------|------------|--------------|----|------|-----------|---------|-----|
| YES          | 179        | 59.67        | 1  | 0.05 | 11.213    | 0.001   | Sig |
| NO           | 121        | 40.33        |    |      |           |         |     |
| <b>TOTAL</b> | <b>300</b> | <b>100.0</b> |    |      |           |         |     |

From the result presented on Table 6 above. It could be observed that a significant Chi-square value ( $X^2=11.213$ ,  $p<0.05$ ) was obtained at 0.05 level of significance, therefore hypothesis two as stated above is hereby rejected. However, this implies outrightly that there was significant practice of self-breast examination among female undergraduates in Lagos State

University. The distribution of responses showed that 59.67% (179) of the respondents Practice Self-breast Examination while 40.33% (121) don't practice self-breast examination. The hypothesis two above states that there would be no significant practice of Breast self-breast examination among female undergraduates in Lagos State University.

Finding from this hypothesis agrees with Kudzawu, Agbokey and Ahorlu, (2016). In their research which determined the knowledge and practices of self-breast examination among market women at Makola Shopping Mall in Accra, Ghana. The study was conducted at the Makola Shopping Mall in Accra among women above the age of 20 years who owned a store and sell at the mall. Data were collected using mixed method involving in-depth interviews and questionnaire survey. Random samples of 170 participants were selected from a population of 400 for the quantitative survey. Reports showed that breast cancer awareness was very high (88%) among respondents. Even higher among respondents was self-breast examination, 158 (93%). Their main sources of information on breast cancer were from the electronic media, Radio (74%) and Television (71%). This was same for self-breast examination radio (77%) and television (71%). The high level of awareness on SBE was confirmed during in-depth interview (IDI) sessions, where the media and health workers were frequently mentioned as the sources of information for SBE.

Also, this finding disagrees with Birhane, Alemayehu, Anawte, Gebremariyam, Daniel, Addis and Negash, (2017) in their study on Practices of breast self-examination and associated factors among female debre berhan university students. Two hundred fifty-six (64%) of the participants had heard about SBE and 30.25% had good knowledge about SBE. Mass media were the most common source of information about breast cancer while only few of the participants (28.3%) had performed SBE. Lack of knowledge on how to perform SBE was cited as the main reason for the low practice of SBE. Knowing how to perform, when to perform, and position to perform BSE and having a perception that SBE is important and useful to detect breast cancer were significant predictors of practices of SBE.

### **Conclusions and Recommendations**

Based on the findings of the study, it was concluded that:

Female undergraduates, students in Lagos State University, had high level of knowledge regarding concept of breast cancer, breast cancer risk factors, breast cancer signs and symptoms and very low level of knowledge regarding breast cancer preventive measures. It was also confirmed that as much as female undergraduate practice self-breast examination, a higher number of female undergraduates do not also practice breast self-examination.

Based on the findings of the study, it was recommended that:

1. Higher institutions, Government, Non-Governmental Organizations, Centre for Women and Gender Studies, Churches, Communities, Female Organizations, Health educators and health professionals should adopt and use the Self-Breast Examination enhancement strategies. This will help to raise to very high level, the knowledge of breast cancer and enhance the practice of SBE among female undergraduates.
2. The aforementioned agencies should capture all female undergraduates irrespective of their age group, marital status, family history of breast cancer and religious denomination, so as to raise to a very high level their knowledge of breast cancer and enhance their practice of self-breast examination.
3. Female undergraduates should read, learn and study about breast cancer and breast self-examination and also practise self-breast examination between the 7th and 10th day of their menstrual cycle.
4. Higher institutions in Lagos State should include breast cancer and self-breast examination as topics in health general studies of their institutions.

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