

# Knowledge of Breast Cancer among Secondary School Female Teachers in Rivers State

Mayen Etim Inyang<sup>1</sup>, Anelechi Kenneth Madume<sup>2\*</sup>, John Nwolim Paul<sup>3</sup>

<sup>1</sup>Department of Human Kinetics, Health and Safety Studies, Ignatius Ajuru University of Education, Rumuolumeni, Port Harcourt, Nigeria

<sup>2</sup>Department of Physiotherapy, Faculty of Basic Medical Sciences, College of Medical Sciences, Rivers State University, Nkpolu-Oroworokwo, Port Harcourt, Rivers State, Nigeria

<sup>3</sup>Department of Human Anatomy, Faculty of Basic Medical Sciences, College of Medical Sciences, Rivers State University, Nkpolu-Oroworokwo, Port Harcourt, Rivers State, Nigeria

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**\*Corresponding Author:** Anelechi Kenneth Madume

Department of Physiotherapy, Faculty of Basic Medical Sciences, College of Medical Sciences, Rivers State University, Nkpolu-Oroworokwo, Port Harcourt, Rivers State, Nigeria

## Abstract

This study assessed the knowledge level of breast cancer among secondary school female teachers in Rivers State. The study was guided by three objectives with equivalent research questions. Descriptive survey design was adopted, with a population comprising of seven thousand, nine hundred and thirty nine secondary school female teachers in Rivers State. A sample size of 720 respondents was selected from ten LGAs in the two areas (upland and riverine area) of Rivers State through a multistage sampling procedure. The instrument for data collection was a validated self-structured questionnaire titled Knowledge Level of Breast Cancer Questionnaire (KLBCQ) with reliability coefficients of 0.82. Data collected were analyzed using percentages, and chi-square. The result of the study indicated that; Secondary school female teachers in Rivers State have average knowledge level (60.6%) of breast cancer. 47.9% have poor knowledge of breast cancer risk factor, 65.7%, have average knowledge of breast cancer signs and symptoms and 74.4% have good knowledge of breast cancer preventive measures. It was concluded that secondary school female teachers in Rivers State have average knowledge level of breast cancer. It was recommended among others that Nollywood actors in collaboration with script writers and producers should constantly write and act dramas on breast cancer, in order to increase awareness and knowledge of breast cancer among the general population.

**Keywords:** Knowledge, Breast cancer, Secondary school, Female teachers, Rivers State.

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## INTRODUCTION

The breast is a mammary gland that lies within the pectoral region. It is a reproductive organ that is made up of lobules-glandular structure that aids milk production for babies by women during breast feeding. Both males and females have breasts but the male breast lacks the specialized lobules, as there is no physiological need for milk production by the male breast. The breast is made up of a fatty tissue that is known as adipose tissue. The female's breasts usually contain more glandular tissue than that of the male, and a healthy female breast is made up of 12–20 sections called lobes which are further divided into smaller lobules. These lobes and lobules are connected through milk ducts. The adipose tissue of the breast is supplied by a network of nerves, blood vessels, lymph vessels,

lymph nodes, and it is also composed of fibrous connective tissue and ligaments. The female breast is designed to provide optimal nourishment for newborn babies and to also provide sexual gratification for the female during romance and sexual intercourse, when fondled properly. The breasts come in different sizes and shapes, as do nipples [1, 2]. The breast can develop numerous diseases, but one of the commonest diseases that affect the breast is known as breast cancer. Breast cancer is a disease that occurs due to cells proliferation within the breast region. It is the second most common cancer among women. It is a public health problem. Some years ago, report showed that over 2 million new cases of the disease were diagnosed globally [3, 4] and breast cancer accounted for 11.6% of all cancers in 2018 [5-8]. The rate at which breast cancer grows in

underdeveloped countries is greater and it is becoming an increasingly principal problem in low and middle income countries that once had low incidence rate. Presently, the incidence rates have been increased by up to 5% per year [9]. A report in 2012 indicated that, about 1.67 million new cases of the disease were diagnosed, and 522,000 deaths were recorded.

Knowledge is awareness, knowingness or familiarity of a specific phenomenon. For this study knowledge is the possession of accurate understanding of breast cancer, its symptoms, risk factors, preventive measures, treatment options and centres for detection. Knowledge about breast cancer is a key driving force necessary for the early detection, prevention and treatment of the disease. Knowledge of breast cancer and knowledge of breast cancer screening activities can increase the rates of women's participation in breast cancer screening activities [10]. Adequate knowledge of breast cancer can provide women with the ability to observe and identify symptoms before the disease starts to spread and seek medical assistance early. Knowledge of the causes and risk factors of the disease can help in the prevention of the disease by providing individuals the necessary understanding needed to adopt preventive measures and appropriate lifestyle modification [11]. A comprehensive knowledge on how to access quality cancer care is important for women since it is the first step to preventing the disease and more so, since the true cause of the disease is obviously unknown, with nonspecific treatment and poor prognosis [12, 13]. There are some factors which are known to influence breast cancer knowledge among women, and these factors include; residential area, educational level, age, religion, level of exposure and cultural belief. Some studies have shown that knowledge significantly correlated with level of education. Educational background and individual attitude appear to be connected to the underlying issues contributing to the prevalence of breast cancer in women [14].

Educational attainment is considered an important predictor of women's use of formal and preventive health care services including cancer screening, given its role in knowledge provision on health and its related behaviours. Level of education has a positive impact on screening behaviour. Women with higher educational level have obtained some level of knowledge of BSE than women without higher education. Improved knowledge level has a positive impact on behavioural change by increasing self-confidence.

Breast cancer have several risk factors, and some of the risk factors includes; breast cancer genes mutations, bovine leukemia Virus (BLV), Epstein-Barr virus (EBV), human papillomavirus, benign breast disease, mouse mammary tumor virus (MMTV), ionizing radiation, getting older, hereditary, mammographic density and individual lifestyle [15, 16].

Various signs and symptoms are associated with breast cancer, and the signs and symptoms of breast cancer differ among different individuals. Some individuals that are affected with the disease have no symptoms and the cancer is found during a screening mammogram (a low-dose x-ray of the breast) or a physical examination by a doctor. Because of the variation in the symptoms of the disease, people who are affected with breast cancer do not usually undergo the same symptoms. The symptoms of breast cancer occur according to the body function of the individual that is affected by the disease. Some of the symptoms of breast cancer include: lumpiness in the affected breast, changes in the size or shape of the breast, changes of the nipple, such as a change in shape, crusting, sores or ulcers, a clear or bloody discharge, or a nipple that turns in (inverted) when it used to stick out. Changes in the skin of the breast, such as dimpling or indentation, a rash, a scaly appearance, unusual redness or other colour, swelling or discomfort in the armpit, persistent and unusual pain that is not related to the normal monthly menstrual cycle remains after the period and occurs in one breast only [17]. Insomnia, diarrhea, constipation, loss of taste, fatigue, vomiting and pain that indicates that there is an existence of breast cancer, persistent changes to the breast such as; thickening, swelling and dimpling, Cooper's ligament affected such as distortion, tenderness, skin irritation, redness, scaling and prominent superficial veins. The most common symptom of breast cancer is a new lump or mass [18, 19].

Breast cancer can be prevented through good screening practices and modification of lifestyle by individuals, since lifestyle such as smoking, consumption of alcohol, poor dietary habit are contributors to the development of breast cancer [20]. The current preventive methods for breast cancer include; screening, chemoprevention and biological prevention.

There is dearth of information on the knowledge of breast cancer among secondary school female teachers, probably because it is not incorporated in the curriculum of secondary education in Nigeria. Hence, this study was done to survey the knowledge of breast cancer among secondary school female teachers in Rivers State.

There are a number of publications on knowledge of breast cancer, breast cancer screening, and predisposing factors among female university staff members that have already been reported by previous authors [21-26].

## **MATERIALS AND METHODS**

A letter of introduction was collected by the researcher from the Head of Department of Human Kinetics Health and Safety Studies, Ignatius Ajuru University of Education, Rumuolumeni, Port Harcourt,

which was delivered to the principal of the schools, asking for permission to conduct the study, and also beseeching cooperation of the secondary school female teachers. Where the absent of the principal was met, the researcher tendered the letter to vice principal. Questionnaire was administered directly to the respondents by the researcher with the help of four trained research assistants. Instructions regarding the filling of the instrument were intensively explained to the respondents, and the filled instruments were collected at the spot. A total number of 720 copies of questionnaire were administered and retrieved at that very moment, with the return rate of 100%. It took an hour to fill a questionnaire, and two and half months to gather data.

Descriptive survey design was adopted for this study. The design enabled the researcher to obtain reliable data from a large sample drawn from a given population (secondary school female teachers in Rivers State) which describes certain features (knowledge level of breast cancer) which was the area of interest of the researcher, and enabled the researcher to generate conclusions, and create new hypotheses that can aid further studies. This descriptive survey design has been implemented in previous studies by Onwusah *et al.*, [26], who carried out a study on knowledge and awareness of breast cancer among university students in South-South Nigeria. This design was also used by Lemlem *et al.*, [27], who conducted a studied on the assessment of knowledge of breast cancer and screening methods, among nurses in University Hospitals in Addis Ababa, Ethiopia. For a researcher who had interest in collecting original data for the purpose of describing fairly large population, the design was the best for the purpose of the study.

A sample size of 720 was used for the study. The sample size was determined using Taro Yamane formula which yielded a minimum sample size of 400. In order to have a representative of the total population, the sample size was increased by the researcher by 80 percent of the minimum sample size. Hence the sample sizes were increased to 720. A multistage sampling procedure which included; cluster sampling technique, simple random sampling technique and purposive sampling technique was used for the study to get respondents from various areas (upland and riverine area). At the first stage, the researcher clustered the study area into two areas (upland and riverine area). Upland area has fourteen (14) LGAs and four hundred and forty (440) secondary schools with six thousand, eight hundred and twenty four (6,824) female teachers. The riverine area consists of nine (9) LGAs and one hundred and forty-six (146) secondary schools with one thousand, one hundred and fifteen (1,115) female teachers. At the second stage, the researcher randomly selected five (5) LGAs from each of the clustered area, through balloting (with non- replacement method). The selected LGAs were; Tai LGA, Ahoada West LGA, Obio/Akpor LGA, Etche LGA, Ikwere LGA, Ogu Bolo LGA, Okrika LGA, AkukuToru LGA, Abua/Odual LGA and Degema LGA. At the third stage, the researcher selected the number of respondents from each stratum, using purposive sampling technique.

The instrument for data collection was a self-structured questionnaire titled Knowledge of Breast Cancer Questionnaire (KBCQ). The raw data collected were coded in a spreadsheet for easy analysis; it was then transferred to Statistical Products and Service Solutions (SPSS). Data entered and coded in SPSS, were analysed using percentages and chi-square.

## RESULTS

**Table 1: Percentage on knowledge of breast cancer risk factors**

S/N	Knowledge of risk factors for breast cancer	Correct Response (F)	%	Decision
1.	Age increases the risk of breast cancer in women	429	61.3	Good
2.	Late menopause (over 55 years) increases the risk of breast cancer	382	54.6	Good
3.	Early menarche (under 11 years) increases the risk of breast cancer.	300	42.9	Poor
4.	Older women have a higher risk than younger women in developing breast cancer	373	53.4	Good
5.	Never having completed a pregnancy beyond 20 weeks increases the risk of breast cancer in women	288	41.1	Poor
6.	Oral contraceptive pills may increase the risk for breast cancer if used for above five years	296	42.3	Poor
7.	A woman maybe at a greater risk for breast cancer development if she has several close relatives with breast cancer	281	40.1	Poor
<b>Average knowledge of risk factors</b>			<b>47.9</b>	<b>Poor</b>

CR = Correct Response

The result of the study in Table 1 indicated that, knowledge of breast cancer risk factors of secondary school female teachers in Rivers State was

47.9%. The findings of the study show that, secondary school female teachers in Rivers State have poor knowledge of breast cancer risk factors.

**Table 2: Percentage of signs and symptoms of breast cancer**

S/N	Signs and Symptoms	RF	%	Decision
A.	Lump in the breast can be a risk for breast cancer	566	80.9	Good
B.	The most important sign of breast cancer is pain in the breast	405	57.9	Average
C.	A change in the colour is a sign of breast cancer	470	67.1	Average
D.	Sore on the breast that does not heal is a sign of breast cancer	455	65.0	Average
E.	Discharge on the breast should be reported to the doctor	532	76.1	Good
F.	Redness and warmth over the breast is not common with breast cancer	333	47.6	Average
<b>Average Knowledge of signs and symptoms</b>			<b>65.7</b>	<b>Average</b>

CR = Correct Response

Table 2 shows that, knowledge of signs and symptoms of breast cancer among secondary school female teachers in Rivers State is 65.7%. Thus,

secondary school female teacher in Rivers State have average knowledge of breast cancer signs and symptoms.

**Table 3: Knowledge of Preventive Measures of Breast Cancer**

S/N	Preventive Measures	% of Correct Response		Decision
1.	Every woman above 20 years of age should carry out breast self-examination	554	79.1	Good
2.	Too much processed food, and food with preservative should be avoided	490	70.1	Good
3.	Excessive drinking and smoking should be avoided	550	78.6	Good
4.	Cancerous breast lump should be removed as an option for preventing breast cancer	487	69.6	Average
5.	The use of machine to check for breast lump (mammography) should be done every 2-3 years	417	59.6	Average
6.	Breast self-examination should be done every month after menstrual cycle	454	64.9	Average
7.	Indiscriminate exposure radiation to ionizing should be avoided	540	77.1	Good
8.	Regular exercises should be done to maintain healthy weight	579	82.7	Good
9.	Clinical breast examination should be done annually 5%	567	81.0	Good
10.	Changes in the breast should be reported to medical practitioner	570	81.4	Good
<b>Average knowledge of preventive measures</b>		<b>74.4</b>		<b>Good</b>
<b>Overall average knowledge of breast cancer</b>		<b>62.1</b>		<b>Average</b>

Table 3 shows that, knowledge of preventive measures of breast cancer among secondary school female teachers in Rivers State is 74.4%. Thus, secondary school female teachers in Rivers State have good knowledge of breast cancer preventive measures.

## DISCUSSIONS

The findings of this study indicated that secondary school female teachers in Rivers State have average knowledge of breast cancer (poor knowledge of breast cancer risk factors, average knowledge of breast cancer signs and symptoms and good knowledge of breast cancer preventive measures). The finding of this study is not surprising because secondary school female teachers in Rivers State are specializing in different areas, other than health. The findings of this study is similar to that of Ilo *et al.*, [11] who reported from a study on breast cancer knowledge among women in Ebonyi State, Nigeria where knowledge of breast cancer was found to be on average (48.72%) and that of Abhishek *et al.*, [20] who carried out a study on impact of cancer awareness drive on generating understanding and improving screening practices for breast cancer: a study on college teachers in India, where the respondents had relatively good knowledge

(approximately 50%) of the risk factors and symptoms of breast cancer.

The similarity between the present study and that of the previous studies could be attributed to the fact that these studies were also conducted among female teachers. The findings of the study is at variance with the results of Adibe *et al.*, [21] who carried out a study on knowledge, attitude and perception of breast cancer among female staff of Nigerian University, where majority of the female staff (89.7%) had high knowledge of breast cancer, Onwusah *et al.*, [26] who studied knowledge and awareness of breast cancer among University students in South-South Nigeria, where there was excellent knowledge and awareness of breast cancer symptoms of both Delta State University and University of Port Harcourt female students with (75.5%, 72.7%) respectively. Respondents were also reported to have excellent knowledge (89.2%, 87.7% respectively) of breast cancer preventive measure and treatment. Oladimeji *et al.*, [28] who investigated on knowledge and beliefs of breast self-examination and breast cancer among market women in Ibadan, South West, Nigeria, where knowledge of the participants on breast cancer screening was poor. The majority of participants 425 (70.8%) reported that they did not

know how to perform breast self-examination, while only 29.2% reported that they do know how to perform BSE, Birhane *et al.*, [22] who conducted a study on practices of breast self-examination and associated factors among female Debre Berhan university students, where, most of the participants had low knowledge of breast cancer, and poor practice 113 (28.3%) of breast self-examination. 256 (64%) respondents had heard of BSE, Lack of knowledge on how to perform BSE was the main reason for not practicing BSE, and Sambanje and Mafuvadze [29] who undertook a study on breast cancer knowledge and awareness among university students in Angola, where, there was a general lack of knowledge of breast cancer (more than 80%) among university students in Angola irrespective of whether they were enrolling in medical programmes or non-medical programmes. The variance found between the present study and the previous studies could be attributed to the fact that, there was no homogeneity between the present study group, and the group from previous studies.

## CONCLUSION

Based on the findings of the study, it was concluded that secondary school female teachers in Rivers State had average knowledge level of breast cancer.

## RECOMMENDATIONS

- Civil society in collaboration with the government should include breast cancer educational intervention as one of their compulsory programmes for secondary school female teachers in Rivers State during their pre-employment training and retraining of teachers.
- Government should sponsor a special weekly breast cancer related television and radio programmes for secondary school female teachers in Rivers State, through broadcasting agencies. Health workers should be sponsored to anchor the programmes in order to create awareness on breast cancer.
- Nollywood actors in collaboration with script writers and producers should constantly write and act dramas on breast cancer, in order to increase awareness and knowledge of breast cancer among the general population.

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