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Preventive Behaviours toward Breast Cancer among Women in Rivers East Senatorial District

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Authors' contributions

This work was carried out in collaboration among all authors. Author GA designed the study, performed the statistical analysis and wrote the protocol. Author CEE wrote the first draft of the manuscript and managed the analyses of the study. Author ENA managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Breast cancer cases have been on the increase partly due to lifestyles. However, some women have little or no knowledge of the measures that can be carried out to prevent a surge in cases. This study investigated the preventive behaviour toward breast cancer among women in Rivers East Senatorial District. The descriptive cross-sectional research design was adopted for the study. The population for the study consisted of all 545,056 women in Rivers East Senatorial District with a sample size of 1,200 women determined using the Taro Yamane's formula and selected using the multistage sampling procedure. Data was collected using a structured questionnaire with a reliability coefficient of 0.704 and analysed using mean, standard deviation (SD) and regression statistics at 0.05 alpha level. The finding of the study showed a good preventive behaviour towards breast cancer ($\bar{X}$ = 3.00±0.99). Preventive behaviour towards breast cancer was not significantly related to occupation (r = 0.014; p>0.05). It was concluded that women in Rivers East Senatorial District have good preventive behaviour towards breast cancer. It was recommended that, the government should provide special centre for breast cancer counselling at strategic positions where women can easily go to obtain information they may need about their breasts including cancer.

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1. INTRODUCTION

Cancer has become a major cause of morbidity and mortality globally. Data collected from two population-based cancer registries in Nigeria- the Ibadan Population-Based Cancer Registry (IBCR) and the Abuja population-based Cancer Registry (ABCR) covering a 2-year period (2009–2010)- revealed that a total of 3,393 cancer cases were registered by the IBCR, whereas during the same period, 1,128 invasive cancers were reported by ABCR. Breast and cervical cancers were the commonest among women within the period [1]. Breast cancer is an uncontrolled growth of breast cells, it occurs as a result of mutations or abnormal changes in the genes responsible for regulating the growth of cells and keeping them healthy. The genes are in each cell's nucleus, which acts as the control room of each cell. Normally, the cells in our bodies replace themselves through an orderly process of cell growth; healthy new cells take over as old ones die out. However, over time, mutations can turn on certain genes and turn off others in a cell.

Preventive behaviours thus refer to various activities indulged by an individual to maintain his/her health, prevent or detect an illness. Individuals are motivated to carry out preventive behaviours as a result of the belief that such behaviour will be of benefit to his health (desire outcome) either by reducing or eliminating the chance of acquiring a disease or illness [2]. Behaviour can be influenced by one's knowledge on the causes or risk factors associated with such disease. It can also be improved by preventive measures, reduced prevalence rate and burden of the disease as related to the incidence [2,3].

High incidence of breast cancer could be attributed to the adoption of western life style and diet such as increased consumption of processed meats like bacon, sausages and ham, poor knowledge of cancer related issues and poor awareness on self breast examination among others. Hence, preventive behaviours according to studies include improving women's knowledge of breast cancer, self breast examination and avoidance of the risk factors. Report from WHO (2013) in Aydogan, estimated that about 85% of breast cancer cases are traced to genetic factors which happens as a result of ageing process [4]. The study recommended early screening, self breast examination and improved physical exercises as preventive behaviours against breast cancer. It is necessary for every woman to be familiar with the appearance, shape and structure of the breast including the different hormones produced by the breast. It is also important for the woman to identify any deviation from normalcy on her breast [5].

Occupation may be a relevant factor in prevention of breast cancer. It generally involves any activity in which any person engages on a regular basis; meaning the individual spends much of his/her time in an area of concern for gainful reason or earning a living. Every occupation as a matter of fact has its own hazard depending on the category or kind of occupation. Occupation exposes some persons to metals, pesticides, night shift, ionizing, radiation benzene etc., predisposing the individual to one form of disease or the other over time. International Agency for research on cancer (2009) in Alatise, disclosed that an estimated 4-5% of female breast cancer cases in the UK are linked to shift work, especially those exposed to light at night with high levels of sex hormones; this tends to suppresses the nocturnal peak of melatonin and the circadian master clock, while sleep disruption produces negative effects on the system [6]. This can lead to asynchronous (abnormal) cell proliferation especially in the breast tissue. The research done by this agency found out that breast cancer is 19-48% higher among female nurses and flight attendants whose occupation exposes them to night shift and have worked night shift over time in the past [7].

In their study, Tetyana, Deborah, Michael and Caitlyn, found out that women in professional and managerial roles had higher risk of a breast cancer diagnosis than house wives and women in lower status occupations [8]. The elevated risk of breast cancer among professional women was partly explained by oestrogen-related variables but remained large and statistically significant. They highlighted the importance of adopting a healthy life style and life-course approach to oestrogen related factor.

Breast cancer incidence rates have been reviewed to be increasing each year by 5% in low resource regions such as Nigeria where more often breast cancer is diagnosed late,

hence the chance of survival is usually poor [9]. National Cancer Prevention Programme (NCPP) in Nigeria also reported that about 80,000 citizens of Nigeria die from various forms of cancer annually, stressing that cancer as a disease affects both the poor and rich. Despite the burden of breast cancer, there is paucity of information on its preventive behaviour among women in Rivers East Senatorial District of Rivers State. The preceding background made it necessary to carry out a study on preventive behaviours towards breast cancer among women in the District.

1.1 Research Questions

To guide the study, the following research questions were posited:

1. What are the preventive behaviours toward breast cancer among women in the Rivers East Senatorial District?
2. What are the preventive behaviours towards breast cancer among women based on occupation in Rivers East Senatorial District?

1.2 Research Hypothesis

The following hypothesis guided the study and was tested at 0.5 alpha level.

1. There is no significant relationship between occupation and preventive behaviours towards breast cancer among women in Rivers East Senatorial District

2. METHODOLOGY

The study adopted the Descriptive cross sectional research design. The population of the study consisted of all women in Rivers East Senatorial District which comprised of 545,056 women (National Population Census, 2016). The sample size for the study was 1,200 which was calculated using the Taro Yamane's formula method; the study utilized a Multi-Stage sampling technique to reduce sample bias. A self structured questionnaire titled Preventive Behaviours towards Breast Cancer among Women in Rivers East Senatorial District (PBBC) with two (2) sections was used. The instrument was validated by the researcher's supervisor and three (3) other specialists. The reliability of the instrument was tested using Cronbach alpha. The instrument attained a reliability coefficient of 0.76; it was therefore considered reliable for the study.

The questionnaire was administered by the researcher and four (4) research instructors after obtaining oral consent of the respondents. Returned copies of questionnaire were sorted, coded and analysed using percentages, mean(x) scores, standard deviation (SD) and regression statistic.

3. RESULTS

Fig. 1 is a pie chart showing the occupation of the respondents. It shows that 531(48.0%) were public servants, 260(23.5%) were traders, 107(9.7%) were farmers while 209(18.9%) were students.

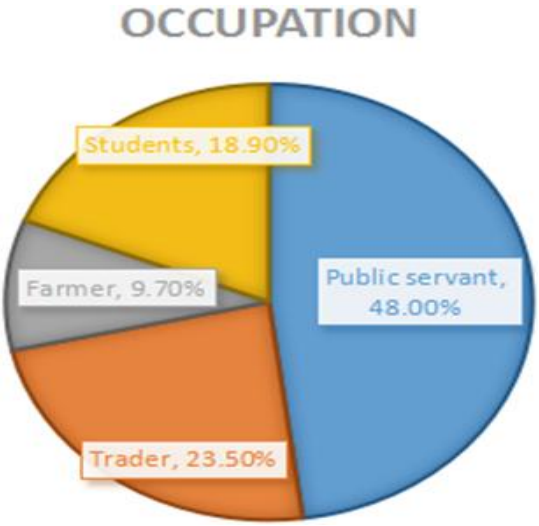

Fig. 1. Pie chart showing the occupation of the respondents

Table 1 shows the preventive behaviours towards breast cancer among the women. The result shows that the grand mean (3.00±0.99) is greater than the criterion mean (2.5), indicating that the women in the District had good preventive behaviours toward breast cancer.

Table 2 shows the regression analysis of the relationship between occupation and preventive behaviours toward breast cancer the sampled population. The result shows a non-significant low positive relationship between occupation and preventive behaviour towards breast cancer ($r = 0.014$; $p>0.05$).

Table 1. Preventive Behaviours towards breast cancer among women in Rivers East Senatorial District

SN	Items	$\bar{X}$	SD	Decision
1	I perform breast self-examination a week after menstruation	3.08	1.00	Good
2	I have not performed breast self-examination any time	3.94	1.04	Good
3	I go for clinical breast examination only during pregnancy and not for breast cancer defection	3.97	.95	Good
4	I started mammography at the age of 40	2.75	1.19	Good
5	I believe that breast cancer can be prevented only by faith in God	2.97	1.06	Good
6	I abstain from smoking	3.09	.96	Good
7	I avoid eating too much processed/preserved foods	3.10	.88	Good
8	I eat diets high in fat	2.86	.99	Good
9	I do regular exercise to avoid over-weight	2.87	.97	Good
10	I drink alcohol beverages excessively	2.64	.99	Good
11	I have allowed a clinical breast examination to be done by a medical personnel	2.83	.95	Good
12	I accept removal of breast as an option for treatment of breast cancer	2.79	.97	Good
13	I permit removal of breast lump as an option for preventing breast cancer	2.95	.94	Good
14	I avoid indiscriminate exposure to ionizing radiation	2.78	.98	Good
15	I go for mammography every 2-3 years	2.77	.99	Good
16	I have gone for Breast 1 and 2 genetic test	2.64	1.11	Good
	Grand mean	**3.00**	**0.99**	**Good**

Criterion mean = 2.5

Table 2. Regression analysis showing the relationship between occupation and preventive behaviours toward breast cancer among women in Rivers East Senatorial District

Model	R	R square	Adjusted R-square	P	B	Decision
	0.014	0.000	-.001	0.652	3.119	Not Sig.

**Not Significant P>0.05*

Therefore, the null hypothesis which states that there is no significant relationship between occupation and preventive behaviours toward breast cancer among women in Rivers East Senatorial District was accepted.

4. DISCUSSION

The findings of this study shows good preventive behaviours toward breast cancer among the respondents with a grand mean of 3.00±0.99 which is greater than the criterion mean of 2.5. These behaviours included breast self examination, abstinence from smoking, avoidance of consumption of too much processed foods and engaging in regular exercise to maintain health, among others. This is surprising as the study was community-based and rural women are often thought to have average level of knowledge. These findings however corroborates with that of Lokossou & Ogoudjobi) who reported in a study on breast cancer knowledge, attitudes and practices of women in hospitals environment in urban area of Southern Benin that breast self-examination was practised by most of the women [10]. This study is also in line with that of Naima &Adil among general practitioner health professionals in Morocco where it was reported that a systematic breast self-examination check-up was reported by 59.4% of physicians indicative of a good breast cancer preventive behaviour among the respondents [11]. Khazaee-Pool's study among Iranian women also showed that women were highly motivated to exhibit breast cancer preventive behaviours of breast cancer. This similarity found between the present study and the previous ones could be attributed to the homogeneity of the study population [12].

The report of this study however differs from some other studies including that of Dorah, Confidence and Tshilidzi on Knowledge, attitudes and practices toward breast cancer screening in a rural South Africa which revealed that majority of women had never performed breast cancer diagnostic methods as a preventive behaviour towards breast cancer [13]. This variation between both studies might be due to the difference in the sample size and the sampling

technique as Dorah *et al.* used a smaller sample size with a systematic sampling technique whereas the present study used a multi-stage sampling with a larger sample size.

The finding of this study also differs from that of Maxwell et al. whose report from a study on knowledge, attitude and perception of breast cancer among female staff of Nigerian university showed that the only 43% had positive behaviour towards breast screening for cancer [14]. This variation is not encouraging given that the study of Maxwell et al was conducted among female University staffs that are thought to be in an academic environment where they are exposed to several information which should be accompanied with a corresponding change in health behaviour. The report of Hassan *et al.* whose report from a study on Poor Knowledge and Practice towards Breast Cancer among Women in Baghdad City of Iraq showed that practice of breast self-examination is poor among women in Baghdad city, in Iraq also differs from the present study [15]. The study by Olorunfemi and Emmanuel and Hajian Tilaki and Auladi in a rural town of Ogun State Nigeria and Northern Iran also reported poor breast cancer preventive behaviour [16,17]. According to Olorunfemi and Emmanuel, 5.3% of the respondents performs breast self-examination regularly (monthly) as recommended and only 18.5% of respondents have ever had their breast examined by physicians for lump and all of them had continued to perform BSE afterwards [16]. Similarly, Hajian Tilaki and Auladi reported that only 10.2% and 8.4% of women have performed breast self- examination (BSE) monthly and breast clinical examination (BCE) annually, respectively indicating a poor breast cancer preventive behaviour [17].

4.1 Occupation and Preventive Behaviour towards Breast Cancer among Women

The finding of this study shows that good preventive behaviour towards breast cancer was found more among respondents who were farmers ($\bar{X}$ = 3.06±.91), followed by those who were traders ($\bar{X}$ = 3.02±.99) while the least was among public servants ($\bar{X}$ = 3.00±.99). Thus based on occupation, farmers and traders had better preventive behaviour towards breast cancer than women with other occupations. The result shows a non-significant low positive relationship between occupation and preventive behaviour towards breast cancer (r = 0.014; p>0.05). The finding of this study is in variance with that of John whose report from a study on breast cancer screening practices, health promoting behaviour and the predicting factors of breast cancer screening practices among Chinese women revealed that being employed was one of the significant predicting factors (p<.05) [18]. This variation found between the previous study and the present one might be due to the difference in the study location as the previous study was carried out in China with a smaller sample size whereas the present study was conducted in Nigeria with a larger sample size.

5. CONCLUSION

Based on the findings of the study, it was concluded that women in Rivers East senatorial District have average knowledge of breast cancer and good preventive behaviour towards breast cancer. Also, the occupation of the respondents had no statistically significant relationship with preventive behaviours against breast cancer.

6. RECOMMENDATIONS

Based on the findings of this study, women should be taught and encouraged to carry out breast self examination. Also, health care facilities should be equipped with cancer screening facilities for early diagnosis.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

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COMPETING INTERESTS

The authors admit that there are no competing interests.

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