

## Knowledge and Beliefs about Breast Cancer among Female Undergraduate in a Selected Private Tertiary Institution in Edo State Nigeria

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**Abstract:** Breast cancer is the leading cause of malignancy in women in Nigeria and has taken over cancer of the cervix to become the leading cause of malignancy. Good knowledge and beliefs about breast cancer will help to reduce women presenting with advanced stages when little or no benefit can be derived from any form of treatment. This study aimed at assessing the knowledge and beliefs about breast cancer among female undergraduate in a selected private tertiary institution in Edo State Nigeria. A multistage sampling was used to select 100 respondents. A self-developed questionnaire was used to obtain data from respondents and this was analyzed using descriptive and inferential statistics with level of significance set at 5%. The results revealed that majority (58.5%) of the respondents have an average knowledge with wrong belief 57 (60.6%) about breast cancer. There was no significant association between age and level of knowledge with ( $\chi^2 = 7.589$ ,  $p = 0.108 > 0.05$ ). However, there was significant association between level of knowledge and level of belief of respondents about breast cancer ( $\chi^2 = 10.750$ ,  $p = 0.030$ ,  $p < 0.05$ ). There is need to introduce breast cancer awareness and education in tertiary institution to increase the level of knowledge and correct negative beliefs about breast cancer among students, especially female students since they are more susceptible.

**Key words:** Beliefs, knowledge, breast cancer, female undergraduate, tertiary institution

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### INTRODUCTION

Breast cancer is the most prevalent cancer worldwide with about 1 million new cases annually and the life time risk of developing breast cancer is at an incidence level of 1 in 9 (Parkin *et al.*, 2005; McPherson *et al.*, 2000). World Cancer Report, breast cancer is the second most common type of cancer after lung cancer worldwide, (10.4% all cancer incidence, both sexes counted) and the fifth (5th) most common cause of cancer death (WHO, 2009). According to McPherson *et al.* (2000), breast cancer is the commonest malignancy in women and makes up 18% of all female cancers. Over 41,000 women are diagnosed with breast cancer each year in the UK (McPherson *et al.*, 2000). The incidence of breast cancer has increased over the past 30 years in the UK but due to better statistical reporting, better screening methods, women living longer being exposed to carcinogens and changes in lifestyle (Chapman and Goodman, 2000). Age is a risk factor for incidence of breast cancer which increases dramatically after the menopause. However, 8000 women were diagnosed under the age of 58 each year in the UK (Cancer Research UK, 2004).

Marc and Lippman stated that there were 216,000 cases of invasive breast cancer and 40,000 deaths in the United States in 2006 statistics indicate that over an entire lifestyle (birth to death), a woman's risk for developing breast cancer is 1 in 8. When broken down by age, the risk by 39 years of age is 1 in 209 and it increases by 1 in 24 by the age of 59 years. Hence, approximately 80% of breast cancer is diagnosed after 50 years of age (Smeltzer *et al.*, 2008).

In Africa, breast cancer often strikes women in their 40s with an average age of 44 years old (WHO, 2009). Various risk factors for breast cancer have been reported and these include: increasing age, Hormone Replacement Therapy (HRT), high dietary fat, excessive alcohol consumption, smoking and family history, among others (ACS, 2009).

The global cancer statistics indicates rising global incidence of breast cancer and the increase is occurring at a faster rate in populations of the developing countries that hitherto enjoyed low incidence of the disease. In Nigeria, the incidence of breast cancer is increasing just like in other developing countries. It has been estimated that between 7-10,000

new cases of breast cancer developed in Nigeria in 2005. Furthermore, Adebamowo and Ajayi (2000) stated that in Nigeria, late presentations of breast cancer cases have also been consistent for 3 decades. Breast cancer has been observed to have overtaken cancer of the cervix thus making it the commonest malignancy in Nigerian women. It has also been observed that late presentations of patients at advanced stages when little or no benefit can be derived from any form of treatment are the hallmark of breast cancer in Nigerian women.

Worried by this prevailing situation and with current data suggesting that health behaviour may be influenced by level of awareness about breast cancer therefore it is necessary to assess the knowledge and beliefs about breast cancer among female undergraduate in a selected private tertiary institution in Edo State Nigeria.

**Objectives of study:**

- To assess the level of knowledge about breast cancer among female undergraduates
- To assess the beliefs about breast cancer among female undergraduates

**Hypothesis:**

- There is no significant difference between age and knowledge about breast cancer among female students under study
- There is no significant difference between level of knowledge and level of beliefs about breast cancer among female students under study

**MATERIALS AND METHODS**

Descriptive design was used for this study and the target population consists of all female undergraduate in the selected tertiary institution in Edo State Nigeria. Selection of the study population was based on the participants' willingness and understanding of the phenomenon being studied. A multistage sampling was used to obtain a representative sample of the population.

**First stage:** Random sampling technique was used to select three colleges from the six colleges in the university.

**Second stage:** A list of various departments in each of the colleges selected was obtained and some of these departments were selected using disproportionate stratified sampling.

**Third stage:** The 100 respondents were randomly selected from the selected departments. Questionnaires were administered to these respondents. These respondents were met in their classrooms between 9.00 am and 2.00 pm daily from Monday to Friday. The data collection took 2 weeks.

The instrument for data collection was a self-developed questionnaire. This is because questionnaire allows for objectively, intensity and standardization of observation of respondents. This questionnaire was divided into sections. Section A contains demographic information of the respondents and section B contains information on general knowledge about breast cancer while section C contains information on Beliefs about breast cancer. The instrument was given to expert in the field of study for face and content validity. Data generated in the study was analyzed using descriptive statistics in the form of frequency, percentages, bar chart and pie chart. Pearson's Chi-square ( $\chi^2$ ) was used to establish associations between variables with 5% level of significant. Data was collected by obtaining permission from the heads of department of various colleges where this study was carried out. The researcher ensured that participants are not harmed in any manner be it physically, psychologically and emotionally. The participants were informed of their rights to privacy throughout the period of the study. Anonymity and confidentiality was maintained at all times both during the data collection process and analysis by ensuring that no data were traceable back to any of the research participants.

**RESULTS AND DISCUSSION**

Table 1 shows that out of 94 respondents, 61 (64.9%) were between the ages 20-23, 22 (23.4%) were between the ages of 16-19 and 11 (11.7%) were between the ages of 24-27. Majority of the respondents 85 (90.4%) were Christians while only 9 (9.6%) were Muslims. The 35

Table 1: Socio-demographic data of respondents (n = 94)

Question	Frequency (N)	Percentage
<b>Age</b>		
16-19 years	22.0	23.4
20-23 years	61.0	64.9
24-27 years	11.0	11.7
<b>Religion</b>		
Christian	85.0	90.4
Muslim	9.0	9.6
<b>Marital status</b>		
Single	91.0	96.8
Married	3.0	3.2
<b>College</b>		
Business and management studies	25.0	26.6
Engineering	35.0	37.2
Law	34.0	36.2

(37.2%) from the College of Engineering, 34 (36.2%) from the College of Law while the other 25 (26.6%) from the College of Business and Management Studies. Majority of the respondents (96.8%) were single while only 3.2% are married.

Table 2 shows that all of the respondents (100%) have heard about breast cancer, 38.3% first heard about it from the mass media, 16% first heard about it from school, 6.4% heard from religious institution, 25.5% first heard about it from family and friends while 13.8% first heard about it from literature. Also, out of these 100 respondents, 27.0% understood and defined breast cancer

Table 2: Knowledge of respondents about breast cancer (n = 94)

Questions	Frequency	Percentage
<b>Have you heard of breast cancer?</b>		
Yes	94.0	100.0
No	0.0	0.0
<b>Where did you first hear of breast cancer?</b>		
Mass media	36.0	38.3
School	15.0	16.0
Religious Institution	6.0	6.4
Family/Friends	24.0	25.5
Literature	13.0	13.8
<b>What do you understand by breast cancer?</b>		
Cancer of the breast	27.0	27.0
Disease of the breast	5.0	5.0
Growth in the breast	13.0	13.0
Lump in the breast	36.0	36.0
Pain in the breast	1.0	1.0
Solidification of fat	2.0	2.0
Terminal disease	16.0	16.0
<b>Breast cancer is hereditary?</b>		
Yes	50.0	53.2
No	44.0	46.8
<b>Breast cancer is caused by micro-organisms</b>		
Yes	50.0	53.2
No	44.0	46.8
<b>Do you know about breast self examination?</b>		
Yes	73.0	77.7
No	21.0	22.3
<b>How often do you do breast self examination?</b>		
Yearly	8.0	8.5
Monthly	44.0	46.8
Weekly	25.0	26.6
Daily	17.0	18.1
<b>The presence of lump in the breast is an early sign of breast cancer</b>		
Yes	81.0	86.2
No	13.0	13.8
<b>Does breast self examination help in early detection of breast cancer?</b>		
Yes	90.0	95.7
No	4.0	4.3
<b>Does one's sex predispose him/her to incidence of breast cancer?</b>		
Yes	38.0	40.4
No	56.0	59.6
<b>Has anyone in your family had breast cancer before?</b>		
Yes	0.0	0.0
No	94.0	100.0
<b>Breast cancer can be prevented?</b>		
Yes	72.0	76.6
No	22.0	23.4
<b>Breast cancer is curable?</b>		
Yes	47.0	50.0
No	47.0	50.0

as cancer of the breast, 5.0% defined it as disease of the breast, 13% defined as growth in the breast, 36.0% defined it as lump in the breast, 1.0% defined it as pain in the breast, 2.0% defined it as solidification of fat while 16.0% defined it as a terminal disease. The 53.2% of the respondents believe it is hereditary while 46.8% believe otherwise. The 52.0% of these respondents also understood breast cancer as being caused by microorganisms while 48.0% of these respondents do not accept that it is being caused by microorganisms.

Also, Table 2 shows that out of the 94 respondents, 77.7% know about breast self examination while 22.3% have no knowledge of what breast self examination is about. The 8.5% of these 94 respondents perform breast self examination yearly, 46.8% perform it monthly, 26.6% perform it weekly while 18.1% perform breast self examination daily. The 86.2% of these respondents have knowledge that the presence of lump in the breast is an early sign of breast cancer while 13.8% do not have the knowledge that lump in the breast is an early sign of breast cancer. The 95.7% of the respondents have a knowledge that breast self examination helps in early detection of breast cancer while 4.3% have no knowledge that breast self examination helps in early detection of breast cancer. Also, 40.6% of the respondents have knowledge that one's sex predisposes him/her to incidence of breast cancer, 59.4% have no knowledge that one's sex can predispose him/her to incidence of breast cancer. Out of the 94 respondents, none has had anyone with breast cancer in her family before. The 76.6% opined that breast cancer can be prevented while the other 23.4% do not. Half (50%) said it is curable while remaining 50% said it is not curable (Fig. 1).

Figure 1 shows that out of the 94 respondents, 25 (27%) have the knowledge that a male can suffer from breast cancer while 69 (73%) have no knowledge that a male can suffer from breast cancer. Table 3 shows that out of 94 respondents, 98.9% believe that breast cancer exist while 1.1% does not believe it exists. About 6.4% believe it is a punishment from God for

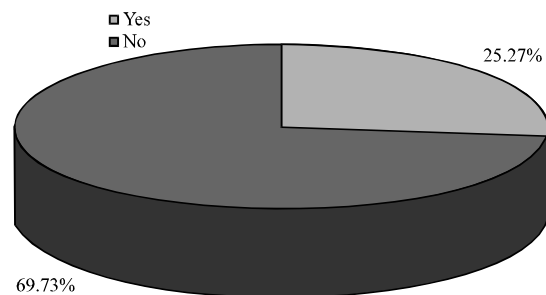


Fig. 1: Can a male suffer from breast cancer?

people who have sinned while 93.6% do not believe it is a punishment from God. The 80.9% of the respondents believe breast cancer is infectious while 19.1% do not believe it is infectious. The 89.4% of the respondents believe only married people suffer from breast cancer while 10.6% of the respondents don't believe only married people suffer from breast cancer.

Also, Table 3 shows that out of the 94 respondents, 35.1% believes that the environment one lives is a contributory factor to having breast cancer while 64.9% don't believe one's environment is a contributory factor to having breast cancer. The 59.6% believes that certain type of food one eats is a contributory factor to having breast cancer while 40.4% do not believe it is a contributory factor. The 68.1% believes that certain drugs contributes to having breast cancer while 31.9% don't believe certain drugs contribute to having breast cancer. The 73.4% believe keeping money in bra contributes to having breast cancer while 26.6% don't believe keeping money in bra contributes to having breast cancer.

Also, 50.0% of the respondents believe that age is a contributory factor to having breast cancer while 50.0% of the respondents don't believe age is a contributory factor to having breast cancer. The 38.3% of the respondents

believe alcoholism is a contributory factor to having breast cancer while 61.7% don't believe alcoholism is a contributory factor to having breast cancer. The 31.9% of the respondents believe obesity contributes to having breast cancer while 68.1% don't believe obesity is a contributory factor to having breast cancer. The 31.9% believes that the occupation of an individual contributes to one having breast cancer while majority of the respondents (68.1%) believe that one's occupation does not contribute to one having breast cancer.

Figure 2 shows the belief of respondents about breast cancer being a spiritual thing. Out of 94 respondents, 86 (91.5%) believe that breast cancer is a spiritual thing while 8 (8.5%) don't believe that it is spiritual. Table 4 shows that out of the 94 respondents, 7.4% had the high level of knowledge about breast cancer, majority of the respondents (58.5%) had an average level of knowledge while 34.0% had a low knowledge of what breast cancer is all about. Table 5 shows that majority 57 (60.6%) of respondents have wrong belief about breast cancer while 37 (39.4%) have the right belief about breast cancer.

Table 6 shows that there is no significant association between age and knowledge about breast cancer of female students under study with  $p > 0.05$ . Table 7 reveals that there is significant association between level of belief and level of knowledge about breast cancer among female students under study with  $p < 0.05$ .

Majority of the respondents were between the ages 20-23 and had an average knowledge about breast cancer since all the respondents have heard about breast cancer

Table 3: Beliefs of respondents about breast cancer (n = 94)

Questions	Frequency	Percentage
<b>Breast cancer exists?</b>		
Yes	93.0	98.9
No	1.0	1.1
<b>Breast cancer is a punishment from God for people who have sinned?</b>		
Yes	88.0	93.6
No	6.0	6.4
<b>Only married people suffer from breast cancer?</b>		
Yes	84.0	89.6
No	10.0	10.4
<b>Factors contributing to breast cancer (The environment one lives)</b>		
Yes	33.0	35.1
No	61.0	64.9
<b>Certain type of food one eats</b>		
Yes	56.0	59.6
No	38.0	40.4
<b>Certain drugs</b>		
Yes	64.0	68.1
No	30.0	31.9
<b>Keeping money in bra</b>		
Yes	69.0	73.4
No	25.0	26.6
<b>Age of the individual</b>		
Yes	47.0	50.0
No	47.0	50.0
<b>Alcoholism</b>		
Yes	36.0	38.3
No	58.0	61.7
<b>Obesity</b>		
Yes	30.0	31.9
No	64.0	68.1
<b>Occupation of the individual</b>		
Yes	30.0	31.9
No	64.0	68.1

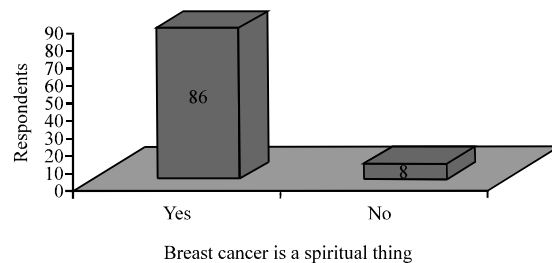


Fig. 2: One of the belief about breast cancer

Table 4: Level of knowledge of respondents about breast cancer

Variables	Frequency	Percentage
High level of knowledge	7.0	7.4
Average level of knowledge	55.0	58.5
Low level of knowledge	32.0	34.0

Table 5: Belief of respondents about breast cancer

Variables	Frequency	Percentage
Wrong belief (misconception)	57.0	60.6
Right belief	37.0	39.4

Table 6: Significant associations between age and knowledge of respondents about breast cancer

Age range (years)	High level of knowledge	Average level of knowledge	Low level of knowledge	Pearson Chi-square ( $\chi^2$ )	df	p-value	Remarks
16-19	1	12	9	7.589	4	0.108	No significant association
20-23	3	38	20	-	-	-	-
24-27	3	5	3	-	-	-	-

Table 7: Significant associations between level of knowledge and belief respondents about breast cancer

Variables	High knowledge	Average knowledge	Low knowledge	Pearson Chi-square ( $\chi^2$ )	df	p-value	Remarks
Wrong belief	4	35	18	10.750*	3	0.030	Significant association
Right belief	3	20	14	-	-	-	-

and most of them opined that breast self examination helps in early detection of breast cancer. It was also observed that knowledge of presence of lump as an early sign of breast cancer was high (86.2%). However, most of the respondents have a poor knowledge of breast cancer occurring in men. This may be due to the fact that this is very rare in men (Smeltzer *et al.*, 2008).

The study revealed that majority 57 (60.6%) of the respondents had misconception or wrong belief about the breast cancer despite the fact that they believe that it exist. Most of the respondents had misconception about the causes/predisposing factors of breast cancer since majority believe that it is infectious, affect only married women and it is a spiritual thing. According to WHO (2007), the cause for breast cancer is idiopathic. Certain factors however contribute to the risk of having breast cancer. Findings revealed that majority of the respondents do not believe that most of these factors contribute to having breast cancer. Alcohol, for example is seen to be a contributory factor to having breast cancer (ACS, 2009) but majority of the respondents does not believe that alcohol is a contributory factor to having breast cancer. However, there is equilibrium in the belief of age being a contributory factor to having breast cancer as 50% of the respondents believe it is. Banjo (2004) reports showed that majority of cases of breast cancer occurred in pre menopausal women and the mean age of occurrence ranged between 43-50 years across the regions but the youngest age recorded was 16 years from Lagos State Nigeria. This supported the findings of Adebamowo and Ajayi (2000) that the peak age of incidence of breast cancer in Nigeria is 42.6 years and that 12% of cases occurred before 30 years while postmenopausal women accounted for 20% of cases.

The study also revealed that there was no significant association between age and level of knowledge of respondents under study with ( $\chi^2 = 7.589$ ,  $p = 0.108 > 0.05$ ). However, there was significant association between level of knowledge and belief of respondents under study ( $\chi^2 = 10.750$ ,  $p = 0.030 < 0.05$ ).

## CONCLUSION

As reported by various studies in Nigeria, the prevalence rate of cancer of the breast has increased due late presentation. This study was designed to assess the knowledge and beliefs about breast cancer among female undergraduate in a selected private tertiary institution in Edo State Nigeria.

The study revealed that most of the respondents had an average knowledge with wrong belief 57 (60.6%) about breast cancer and there was no significant association between age and level of knowledge with  $p > 0.05$ . However, there was significant association between level of knowledge and belief of respondents under study ( $p < 0.05$ ).

The reason for this outcome may probably be due to the fact that there is little or no means of awareness on issues concerning breast cancer in schools. As the findings in this study have shown, majority of the respondents first heard about breast cancer from mass media, only a few from literature and schools. Hence, there is need to ensure that breast cancer awareness and education is being introduced in the schools and more literatures concerning breast cancer should be published and made readily available to students at all levels especially at the secondary and tertiary levels in occur to reduce the incidence of cancer.

## IMPLICATION

The profile of knowledge and beliefs about breast cancer will give direction concerning areas in clinical practice and education that needs strategies in promoting breast cancer awareness.

## RECOMMENDATIONS

Based on the findings that majority of the respondents have an average knowledge and an average belief about breast cancer, it is recommended that:

- Students, especially female students should be given more information about breast cancer in order to increase their knowledge about the disease
- Schools should introduce a breast cancer awareness programme in their curriculum as well as provision of books and journals about breast cancer to increase the students' knowledge about breast cancer
- The media should also help by producing more awareness programme on breast cancer including its predisposing factors and early signs

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