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Prevalence of Breast Cancer Among Cancer Patients Attending Cancer Clinic at Federal Teaching Hospital, Ido-Ekiti, Ekiti State

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Abstract

The study examined the prevalence of breast cancer among cancer patients attending cancer clinic at Federal Teaching Hospital, Ido-Ekiti, Ekiti State. Specifically, the study examined the prevalence of and the most common types of breast cancer among patients attending cancer clinic, Federal Teaching Hospital Ido-Ekiti, Ekiti State. This study was a ten (10) years retrospective, descriptive study of consecutive female adult with diagnosis of breast cancer attending cancer clinic. The facility was purposively selected being the only Federal Teaching Hospital in Ekiti State where national cancer registry is located. This study was a 10-year retrospective study and the data extracted from the patient's case note and clinic register includes age, religion, ethnicity, occupation, gravid, parity, number of children, date of admission, date of discharge and stages of breast cancer. Descriptive statistics of frequency, percentage, mean and standard deviation where applicable and inferential statistics of Pearson correlation was used for testing both hypotheses at 0.05 level of significance. The findings of the study revealed high prevalence of breast cancer among other categories of cancer. In addition, the most occurring stage of breast cancer was stage 2. The study also revealed that socio-demographic characteristics influence prevalence of breast cancer while reproductive history was related to prevalence of breast cancer. It was recommended among others that Nurses should health educate all the women of childbearing age on how to do self-breast examination, because it enhances early detection of breast cancer.

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Introduction

Cancer is generally one of the major causes of death globally. Breast cancer is the most common form of cancer among women in low-income region and one of the most essential causes of cancer-related deaths among women worldwide (Ferlay et al., 2015). Breast cancer is the fifth leading cause of cancer-related mortality in 2012 worldwide; with a record of 324,000 deaths in 2012 which signify 14.3% and average of 522,000 yearly and it was the most common cause of death in low resource countries with 197,000 deaths leading to 15.4% of all deaths (Weiss, et al., 2018). Although breast cancer prevalence is more in high-income countries, higher death rates are observed in low and middle-income countries (Ghonche, et al., 2016).

Incidence rates change greatly globally from 19.3 per 100,000 women in Eastern Africa to 89.7 per 100,000 women in Western Europe (Ferlay, et al., 2019). In most of the developing regions, the incidence rates are under 40 per 100,000 (Ferlay, et al., 2019). Breast cancer survival rates vary greatly worldwide, ranging from 80% or more in North America, Sweden and Japan to around 60% in middle-income countries and below 40% in low-income countries (Conant, et al., 2019). The low survival rates in low-income countries can be clarified mainly by inadequate early detection programs, resulting in a high proportion of women presenting with late-stage disease, as well as by the lack of adequate diagnosis and treatment amenities (Conant, et al., 2019).

In Nigeria, breast cancer has surpassed cervical cancer as the leading female malignancy (Saahene et al., 2019). As in low-income resource countries, late presentation with unfavorable prognosis is rampant in Nigeria (Odumosu et al., 2020; Arowolo et al., 2013). Odumosu et al. (2020) discovered that breast tumor in Nigerian women has less tubular differentiation and higher mitotic to apoptotic index compared to Finnish women. However, according to the study conducted in Nigeria, breast cancer constitutes 44.8% of all breast morbidities with prevalence of 10.4 per 100,000 women in 2011 (Azubuike, et al., 2018). Jedy-Agba et al. (2012) also submitted an age standardized incidence rate of breast cancer of 52.0 per 100,000 women in Ibadan, Nigeria and 64.6 per 100,000 women in Abuja, Nigeria. The study also concluded that there was substantial rise in incidence of breast cancer in Nigeria when compared to previous studies (Jedy-Agba et al., 2012). It is against this background that this study therefore examined the prevalence of breast cancer among cancer patients attending cancer clinic at Federal Teaching Hospital, Ido-Ekiti, Ekiti State. Specifically, the study;

1. examined the prevalence of breast cancer among patients attending, Federal Teaching Hospital Ido-Ekiti, Ekiti State;
2. determined the most common types of breast cancer among patients attending cancer clinic, Federal Teaching Hospital Ido-Ekiti, Ekiti State

Research Questions

The following research questions were raised for this study;

1. What is the prevalence of breast cancer among patients attending, Federal Teaching Hospital Ido-Ekiti, Ekiti State?
2. What is the most common stage of breast cancer among patients attending cancer clinic, Federal Teaching Hospital Ido-Ekiti, Ekiti State?

Research Hypotheses

The following research hypotheses were formulated for this study;

1. There is no significant relationship between socio-demographic characteristics of patients and prevalence of breast cancer among patients with breast cancer in Federal Teaching Hospital, Ido-Ekiti, Ekiti State.
2. There is no significant relationship between reproductive history of patients and prevalence of breast cancer among the study participants in Federal Teaching Hospital Ido-Ekiti, Ekiti State

Methodology

This study was a ten (10) years retrospective, descriptive study of consecutive female adult with diagnosis of breast cancer attending cancer clinic at Federal Teaching Hospital Ido-Ekiti, Ekiti State, Nigeria between January 2009 and December 2019. This study was carried out at the cancer clinic of Federal Teaching Hospital, Ido-Ekiti. This facility is located in Ido, the Semi-Urban Headquarter of Ido/Osi local government of Ekiti State. The facility was purposively selected being the only Federal Teaching Hospital in Ekiti State where national cancer registry is located. The facility receives average of 5 clients per clinic based on the clinic register and the clinic runs twice a week making total population of 10 clients on weekly basis, 20 clients in two weeks and 40 in a month.

This study was a 10-year retrospective study and the data extracted from the patient's case note and clinic register includes age, religion, ethnicity, occupation, gravid, parity, number of children, date of admission, date of discharge and stages of breast cancer. Checklist was used to get the appropriate data from the patient's record to prevent omission of useful information. The researcher visited the cancer clinic, Federal Teaching Hospital, Ido- Ekiti State for data collection. In this study, data were coded and analyzed using SPSS version 21 and presented in tables. Descriptive statistics of frequency, percentage, mean and standard deviation where applicable and inferential statistics of Pearson correlation was used for testing both hypotheses at 0.05 level of significance.

Results

Research Question 1: What is the prevalence of breast cancer among patients attending, Federal Teaching Hospital Ido-Ekiti, Ekiti State?

Table 1: Prevalence of breast cancer

Year	Cancer related conditions	Breast cancer	Total
	Frequency (%)	**Frequency (%)**	**F (%)**
2010	17(47.2)	19 (52.8)	36(100)
2011	10(27.8)	26(72.2)	36(100)
2012	16(44.4)	20(55.6)	36(100)
2013	26(76.5)	8(23.5)	34(100)
2014	23(56.1)	18 (43.9)	41(100)
2015	20(74.1)	7 (25.9)	27(100)
2016	36(61.1)	23 (38.9)	59(100)
2017	8(18.2)	36 (81.8)	44(100)
2018	18(31.0)	40 (69.0)	58(100)
2019	40(55.6)	32 (44.4)	72(100)
Total	**214(48.3)**	**229(51.7)**	**443(100)**

Table 1 shows the prevalence of breast cancer among other cancer related conditions. Data retrieved from the cancer registry shows that a total number of 443 patients were registered and managed for cancer related conditions at cancer clinic Federal Teaching Hospital Ido Ekiti, Ekiti state between the year 2009 and 2019 out of which 229 were recorded to be breast cancer. This represents 51.7% of total cancer related conditions.

Research Question 2: What is the most common stage of breast cancer among patients attending cancer clinic, Federal Teaching Hospital Ido-Ekiti, Ekiti State?

Table 2: Distribution of stages of breast cancer according to year

Year	Stage of breast cancer				Total
	1	2	3	4	
	F (%)	F (%)	F (%)	F (%)	F (%)
2009	1(10)	1(10)	1(10)	7 (70)	10 (100)
2010	0 (0.0)	2(22.2)	3(33.3)	4(44.5)	9(100)
2011	1(3.8)	12(46.2)	4(15.4)	9(34.6)	26(100)
2012	0(0.0)	9(45.0)	10(50.0)	1(5.0)	20(100)
2013	2(25.0)	6(75.0)	0(0.0)	0(0.0)	8(100)
2014	2(11.1)	7(38.9)	6 (33.3)	3(16.7)	18 (100)
2015	0 (0.0)	1(14.3)	2 (28.6)	4(57.2)	7(100)
2016	2(6.3)	11(34.4)	17(53.1)	2(6.3)	32(100)
2017	0(0.0)	6 (26.1)	9(39.1)	8(34.7)	23 (100)
2018	1(2.8)	21(58.3)	7(19.4)	7(19.4)	36(100)
2019	1(2.5)	17(42.5)	10(25.0)	12(3.0)	40(100)
Total	**10(4.3)**	**93(40.6)**	**69(30.1)**	**57(24.9)**	**229(100)**

Table 2 shows percentage distribution of stages of breast cancer according to year. Data retrieved shows high prevalence (40.6%) of stage 2 breast cancer with high percentage (75%) recorded in 2013. This is followed by stage 3 and 4 breast cancer with percentage of 30.1% and 24.9% respectively. Thus, the answer to this question stated that the most occurring stage of breast cancer was stage 2

Test of Hypotheses

Hypothesis 1: There is no significant relationship between socio-demographic characteristics of patients and prevalence of breast cancer among patients with breast cancer in Federal Teaching Hospital Ido-Ekiti, Ekiti State

Table 3: Correlation of socio-demographic characteristics of breast cancer patient and prevalence of breast cancer

Correlations						
		Prevalence of Breast cancer	Age	Religion	Ethnicity	Occupation
Pearson Correlation	Prevalence of Breast cancer	1.000	.	.	.	.
	Age	.	1.000	-.021	.053	.063
	Religion	.	-.021	1.000	-.019	-.120
	Ethnicity	.	.053	-.019	1.000	-.053

	Occupation	.	.063	-.120	-.053	1.000
Sig. (1-tailed)	Prevalence of Breast cancer	.	.000	.000	.000	.000
	Age	.000	.	.374	.214	.171
	Religion	.000	.374	.	.385	.035
	Ethnicity	.000	.214	.385	.	.211
	Occupation	.000	.171	.035	.211	.
N	Prevalence of Breast cancer	229	229	229	229	229
	Age	229	229	229	229	229
	Religion	229	229	229	229	229
	Ethnicity	229	229	229	229	229
	Occupation	229	229	229	229	229

Table 3 shows that there is a statistical significant correlation between socio-demographic characteristics of age, religion, ethnicity, occupation and prevalence of breast cancer with p-value of 0.000 at 0.5 level of significance. Thus, the null hypothesis is rejected and research hypothesis is accepted which says that there is a significant relationship between socio-demographic characteristics and prevalence of breast cancer.

Hypothesis 2: There is no significant relationship between reproductive history of patients and prevalence of breast cancer among the study participants in Federal Teaching Hospital Ido-Ekiti, Ekiti State

Table 4: Correlation of reproductive history of breast cancer patient and prevalence of breast cancer

Correlations					
		Prevalence of Breast cancer	Gravidity	Parity	No of Children
Pearson Correlation	Prevalence of Breast cancer	1.000	.	.	.
	Gravidity	.	1.000	.723	.654
	Parity	.	.723	1.000	.896
	No of Children	.	.654	.896	1.000
Sig. (1-tailed)	Prevalence of Breast cancer	.	.000	.000	.000
	Gravidity	.000	.	.000	.000
	Parity	.000	.000	.	.000
	No of Children	.000	.000	.000	.
N	Prevalence of Breast cancer	229	229	229	229
	Gravidity	229	229	229	229
	Parity	229	229	229	229
	No of Children	229	229	229	229

Table 4 shows that there is a statistical significant correlation between reproductive history of gravidity, parity and number of children alive and prevalence of breast cancer with p-value of 0.000 at 0.5 level of significance. Thus, the null hypothesis is rejected and research hypothesis is accepted which says that there is a significant relationship between reproductive history and prevalence of breast cancer.

Discussion

The result from this study shows that more than half of the patients with cancer related conditions were breast cancer and this gave breast cancer prevalence of 51.7% among other cancer related conditions, breast cancer was among age group 40-49 years (26.2%) and 50-59 years (23.1%). High prevalence of 81.8% was observed in the year 2017 which steadily declined to 44.4% in 2019. However, according to Ferlay et al., (2015), breast cancer account for 13.8% of all cancer cases in 2012 which is higher than the finding recorded in 2012 from the study that is, finding from the study in 2012 account for 4.5% of all cancer cases. More so, Azubuike, et al., (2018) showed an increase in breast cancer cases by 33% from 2005 to 2015 while population growth was the reason for 12.6%, aging population for 16.4% and 4.1 was attributed to age-specific cases. Tabar, et al., (2019) stated that the breast cancer was the most common types of cancer among women with an increase rate of 21.4% to 24.4% of all new cases of cancer. Prevalence observed in the study area was slightly more than a result reported in Iran with prevalence of 12.5%. According to Azubuike, et al., (2018), breast cancer account for 37% among all cancer cases among females in Nigeria with 22.7% new cases and 16.4% mortality rate and it is however ranked the first leading cause of death among other cancer cases. Additionally, breast cancer incidence has not only being remarkably high in most studies but also shows a progressive increase in Nigeria.

Breast cancer is the second most common cancer in the world and the most common cancer among women (Ferlay et al., 2019). Although cancer exists anywhere in the world, its incidence rate is higher in developed countries, and the incidence rate of breast cancer varies greatly with race and ethnicity (DeSantis et al., 2019). Most breast cancers begin in the lobules (milk glands) or in the ducts that connect the lobules to the nipple (American Cancer Society, 2020). Breast cancer typically has no symptoms when the tumor is small and most easily treated, which is why screening is important for early detection (Giuliano et al., 2017).

Conclusion

In conclusion, the study revealed high prevalence of breast cancer among other categories of cancer. In addition, the most occurring stage of breast cancer was stage 2. The study also concluded that socio-demographic characteristics influence prevalence of breast cancer while reproductive history was related to prevalence of breast cancer.

Recommendations

Based on the findings from this study, the following recommendations were made;

1. Nurses should health educate all the women of childbearing age on how to do self-breast examination, because it enhances early detection of breast cancer.
2. Lifestyle of the patient such as smoking, use of drugs that can promote breast cancer should be modified by the health care providers.
3. Each cancer center should have standardized data storage processing and retrieval of information as regards to breast cancer, because most of the hospital does not have enough data base as regards to breast cancer compared to developed world.

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