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(RESEARCH ARTICLE)

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Breast cancer risk factors depended on a statistical study in Sabratha Oncology hospital from 2006 to 2016

Hamida Salem Kamoka [1] and Khaled Ali Alawaini [2,*]

[1] *Department of Zoology, Faculty of Science, Sabratha University, Libya.*
[2] *Department of* Biochemistry, *Faculty of Science, Sabratha University, Libya*.

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Abstract

Breast cancer is the primary cause of death in women in developed countries. The main objective of this study is to define the relationship between breast cancer, gender, and age, based on a statistical study in Sabratha Oncology Institute during the years of 2006 to 2016. The study included 2429 patients registered for eleven years (2006-2016). Two thousand three hundred sixty-four (3164) cases were females (97.33%) and 65 males (2.67%). The average ages were 45.48 years for females and 54.93 years for males. The study showed a clear relationship between breast cancer and gender; as for age, there was varies between men and women. The study also revealed that the incidence of breast cancer increases with age and occurs mainly during the third and fourth decades of life for women. At the same time, it is of minor occurrence during the following decades of a woman's life. As for men, breast cancer is of more common occurrence between the fifth and eighth decades of life.

Keywords: Breast cancer; Menopause; Estrogen Hormone; Sabratha Oncology Institute

1. Introduction

Breast cancer is the most common invasive cancer that affects women globally. It is the second-highest cause of cancer death in women after lung cancer [1]. Breast cancer is the most frequently diagnosed neoplastic disease in women around menopause, often leading to a significant reduction of these women's ability to function normally in everyday life [2]. Prevalent among women, and it can develop in men. Society seems unaware that men can develop breast cancer [3]. Breast cancer is a rare disease among men, and the number of cases included in studies is small. It may be confounded with benign diseases, and both patients and physicians may underestimate its signs. Since its detection is delayed, the disease is usually at advanced stages at diagnosis. [4]. However, males have a worse prognosis than females with breast cancer mortality; males are more likely than females to die at each stage of the disease [5,6]. With 1 million new cases globally each year, breast cancer is the commonest malignancy in women and comprises 18% of all female cancers [7]. The occurrence of breast cancer in the female Libyan population is strongly associated with young age, with nearly 70.9% of cases arising in female individuals who are 50 years or younger. The median age is 44.0 years, and the mean age 46.0 years [8]. The incidence of breast cancer increases with age, doubling about every 10 years until menopause, when the rate of increase slows dramatically [7]. Family history is another risk factor that establishes breast cancer in the family. Persons who inherit the abnormal gene (BRCA1) or (BRCA2) are at a much greater risk of developing breast cancer [8,9,10,11]. Starting menstruation at an early age reaching menopause at a much later age [7,11]. obesity is associated with an increased risk of developing breast cancer [11,12]. All those previously mentioned factors increase the risk of developing breast cancer. Also, what is known as Klinefelter's Syndrome which affects males in particular, where males would develop female-like features as a result of high levels of Estrogen hormone produced [13,14]. In general, all the risk factors can be divided into two groups. The first group would include inherent factors

* Corresponding author: Khaled Ali Alawaini
Department of Zoology Faculty of Science- Sabratha University, Libya.

such as age, sex, race, genetic makeup. The second group would include extrinsic factors conditioned by lifestyle, diet or long-term medical intervention such as using oral hormonal contraceptives or hormonal replacement therapy [2]. The main objective of this study is to define the relationship between breast cancer, gender, and age, based on Sabratha Oncology Institute statistics (2006-2016).

2. Material and methods

This study investigated breast cancer cases (men and women) registered in Sabratha Oncology Institute (2006-2016). Cases were sorted out and classified according to gender, divided into groups. Each age group was then counted, and mean ages worked out.

Statistical analysis was carried out using Microsoft Excel and displayed in tables and figures.

3. Results and discussion

3.1 The relation between breast cancer and gender

The number of patients registered in Sabratha Oncology Institute (2006-2016) was 2429. The number of women patients 2364 women (97.33%). The number of patients in men was 65 (2.67%).

According to the study, we found 394 diagnosed breast cancer cases in women and one case in men. Men with breast cancer make up less than 1%. Compared to women [5,15]. The following table shows the number of patients registered at Sabratha Oncology Institute (2006-2016). The following table shows details of the number of patients.

Table 1 The number of cases registered in the African Oncology Institute Sabratha (2006-2016)

Year	Women	Men	Sum
2006	110	3	113
2007	106	4	110
2008	153	5	158
2009	232	6	238
2010	211	5	216
2011	122	6	128
2012	193	3	196
2013	293	8	301
2014	378	5	383
2015	317	12	329
2016	249	8	257
Sum	2364	65	2429
Percentage	97.33%	2.67%	100%

3.2 Relation between breast cancer and age:

3.2.1 Relation between breast cancer and age in men

The range of the age of is between 18-95 years. The mean age is 54.93 years. The highest percentage of incidence is between the ages of 40-80 years.

Table 2 The number of male patients registered in Sabratha Oncology Institute according to their ages

Age / Years	Less than 20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	More than 90
2006	0	0	0	1	0	1	0	1	0
2007	0	0	1	0	1	1	1	0	0
2008	1	0	0	1	2	0	1	0	0
2009	0	0	0	1	2	0	2	0	1
2010	0	0	0	1	1	2	1	0	0
2011	0	0	0	2	1	1	2	0	0
2012	1	0	0	0	0	1	1	0	0
2013	0	0	2	2	1	1	1	1	0
2014	0	1	0	1	1	1	1	0	0
2015	1	2	3	2	1	0	1	2	0
2016	1	2	1	0	1	2	0	1	0
Total	4	5	7	11	11	10	11	5	1
Percentage	6	7.7	10.7	17	17	15	17	7.6	2

3.2.2 Relation between breast cancer and age in women

The ages of women patients range from 15-97 years; the mean age was 45.48 years of female patients according to different age groups, as far as age is concerned, we found that the number of patients increases in women from 30-50 years (fourth and fifth decades). In Libya, premenopausal breast cancer is more common than postmenopausal breast cancer. [8]. The following table showing details of the number of female patients**.**

Table 3 The number of women patients registered in Sabratha Oncology Institute each year divided into different age groups

Age / Years	Less than 20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	More than 90
2006	0	5	36	42	11	8	6	2	0
2007	0	11	35	35	13	6	5	1	0
2008	0	10	56	60	19	9	4	0	0
2009	0	7	74	86	35	14	16	5	1
2010	0	10	67	70	38	16	8	2	0
2011	0	4	47	42	21	5	5	0	0
2012	1	12	52	70	34	17	4	3	0
2013	3	24	76	93	51	28	12	1	0
2014	5	26	89	129	75	22	15	6	0
2015	11	34	78	94	53	29	8	8	1
2016	12	14	49	96	48	17	8	3	0
Total	32	157	660	817	399	171	91	35	2
Percentage	%1.4	%6.64	%27.91	%34.6	%16.90	%7.23	%3.84	%1.48	%0.08

The results obtained show an increase in the number of patients in 2013, 2014, 2015 and 2016; this could be due to improved health care, including included diagnostic facilities [8]. Infertility and an unmarried status for females. Since the fraction of unmarried female individuals (between ages 34 and 40) was higher among the Libyan breast cancer patients than in the North African population in general [8]. The following table shows the increase in patients in the mentioned years.

Table 4 The increase in patients over the years (2013, 2014, 2015, 2016)

year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
No. of cases	144	124	174	243	214	143	197	301	383	329	257

The incidence of breast cancer is increasing almost everywhere. This undesirable trend is partly due to increased risk factors such as decreased childbearing and breastfeeding, increased exogenous hormone exposure, and detrimental dietary and lifestyle changes, including obesity and less physical activity. [16,17]. Malnutrition and the lack of essential vitamins in the food, especially vitamin D, would increase the risk of breast cancer [18]. Another important reason is the psychological stress and stressful life events [19,20,21]. On the other hand, the numbers may have increased in the years indicated due to a combination of intensified early detection efforts and mammographic screening [1,17].

4. Conclusion

A statistics of African Oncology Institute Sabratha related to registered breast cancer cases for the period of (2006 to 2016) To clarify the relationship between breast cancer and both gender and age, The results showed a relationship between breast cancer and gender. Where women represented 97.33%, while the proportion of men was 2.67%, this study also confirmed that breast cancer has related to age for both genders, the ages of the affected women ranged from 30 to 50 years, and men's ages were between 40 to 80 yrs. The results showed that the number of patients has increased during 2013, 2014, 2015, 2016. Breast cancer can be controlled, and patients survive for long life if detected early. Therefore, advanced treatment and patients treated. As a result, more attention should be given to improving the health system and people's knowledge.

Compliance with ethical standards

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Disclosure of conflict of interest

There is no conflict of interest.

Statement of informed consent

All data in this study were their obtained from Sabratha Oncology institute centre.

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