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Statistical Study Of Breast Cancer (Females) In Wasit Province For Period (2018- 2020)

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ABSTRACT: Breast cancer ranks first among cancerous diseases in terms of incidence, according to the records of the Iraqi Ministry of Health, with an estimated rate of 36.1% of the total number of cases, and out of every three women diagnosed with cancer there is one woman diagnosed with breast cancer. However, advanced and modern world may be today and are riding on the chariot of advancement, but the truth is that there are many things which are beyond our control even today and one of them is cancer. It is wrong to say that the cancer is incurable. But the death rate of patients of breast cancer is still very high. World Health Organization (WHO) has stated that the breast cancer is most frequently found cancer in the women and it is adversary affecting millions of women all over the world. We aim in this study to show statistically the number of cases with breast cancer in women within short period limited to two years.

Key words: Breast cancer, Statistical study, epidemiology, risk factors, types.

INTRODUCTION

Breast cancer is the second most common cancer in the world and the most common cancer among women (Ferlayet al, 2012). Breast cancer is a group of diseases in which cells in breast tissue change and divide uncontrolled, typically resulting in a lump or mass (Park et al, 2017). Most breast cancers begin in the lobules (milk glands) or in the ducts that connect the lobules to the nipple (Shah,2014). Some of the key risk factors of breast cancers are age, gender, affluence, family history, breast conditions, alcohol consumption and obese (Breast Cancer Deadline, 2014) .It is estimated that 1.67 new cancer cases came to light in 2012 (25% of all cancers) and 1.38 million new cancer cases detected in 2008 (23% of all cancers) according to GLOBOCAN 2012 report. Breast Cancer is very common in the region of developing and developed countries. It ranks second

after the lung cancer in more developed region (15.4% of all cancers) and it is most frequent death cause in the less developed region (14.3% of all cancers) (Shah,2014). Approximately 883,000 and 794,000 new cases were estimated in less developed and more developed regions respectively in 2012. It shows the cases of breast cancer are more as compared to 2008 (690,000 cases) (Ferlayet al, 2012; Al-Darwishet al , 2014). The rate of incidence change from 19.3 per 100,000 women in Eastern Africa to 89.7 per 100,000 women in Western Europe, 27 per 100,000 in Middle Africa and Eastern Asia to 96 in Western Europe and are high (greater than 80 per 100,000) in developed regions of the world (except Japan) and low (less than 40 per 100,000) in most of the developing regions (Zhuet al, 2011; Dubeyet al, 2015).Above mentioned statistics clearly show the horrible situation of breast cancer(Giordanoet al, 2002; Abdelwahabet al**,** 2017).The first objective of this paper is to make survey and analysis of breast cancer incidence and mortality in Wasit Province for period from 2018 to 2020.

The diagnosis of breast cancer will be helpful in the development of a new framework which will prove to be a milestone for cancer detection at early stage. As in case breast cancer is detected in early stage the chances of curing will be bright (Thakuret al, 2017).

Diagnosis and Pathogenesis of breast cancer

Breast cancer is generally diagnosed through either screening or a symptom (e.g., pain or a palpable mass) that prompts a diagnostic exam. Screening of healthy women is associated with the detection of tumors that are smaller, have lower odds of metastasis, are more amenable to breast-conserving and limited axillary surgery, and are less likely to require chemotherapy (Kimet al, 2015) .The most common symptoms of breast cancer are changes in the breasts such as the presence of a lump, changes to the nipple, discharge from the nipple or changes in the skin of the breast.Initial investigations for breast cancer begin with a physical examination, mammography and ultrasound scan. In some cases, breast magnetic resonance imaging (MRI) will also be performed (Assiet al, 2013). If a tumour is found, a biopsy will be taken to assess the cancer before any treatment is planned(Meoet al, 2017**)**. Breast cancer is a histologic diagnosis made according to standardized pathologic criteria. The most common breast cancer histology is invasive ductal carcinoma (50%- 75% of patients), followed by invasive lobular carcinoma (5%-15% of patients), with mixed ductal/ lobular carcinomas and other rarer histologies making up the remainder ofpatients (Bhadoriaet al, 2013). Two main molecular targets in breast cancer pathogenesis have been identified. One is estrogen receptor alpha (ERα), which is expressed in approximately 70% of invasive breast cancers. ERα is a steroid hormone receptor and a transcription factor that, when activated by estrogen, activates oncogenic growth pathways in breast cancer cells. Expression of the closely related steroid hormone pro-gesterone receptor (PR) is also a marker of ERα

signaling (Laamiriet al, 2015). Tumors with expression of either estrogen receptor (ER) or PR in at least 1% of tumor cells are categorized as HR+. The use of endocrine agents to down regulate ER signaling is the primary systemic therapy for ER-positive or PR-positive breast cancers(Nguyenet al, 2016). The second main molecular target is epidermal growth factor 2 (ERBB2, formerly HER2 or HER2/neu), a transmembrane receptor tyrosine kinase in the epidermal growth factor receptor family that is amplified or overexpressed in approximately 20% of breast cancers, and is associated with poor prognosis in the absence of systemic therapy (Ravdinet al , 2007). Tumors with amplification or overexpression of the gene ERBB2 are ERBB2+ (IARC), 2013). Patients with ERBB2-amplified or -overexpressing breast cancer benefit from ERBB2-targeted therapy, including antiERBB2 antibodies (such as trastuzumab and pertuzumab) and small-molecule tyrosine 18 kinase inhibitors (such as lapatinib and neratinib) (Iraqi Cancer Registry , 2005). Triple-negative breast cancer, which makes up approximately 15% of all breast tumors, is characterized by the lack of expression of molecular targets ER, PR, or ERBB2. Triple-negative tumors have a high risk of distant relapse in the first 3 to 5 years following diagnosis (Nguyenet al, 2016). . The specific molecular pathophysiology of triple negative breast cancer remains poorly understood. Distinct prevalences, prognoses, and systemic therapy options characterize the 3 breast cancer subtypes: HR+, ERBB2+, or triplenegative. Triple-negative breast tumors are more likely to occur in women who are younger, black, or Hispanic, whereas HR+ tumors are more likely in older women (Fulleret al, 2015) .

Patients & Methods

Samples were collected from the Statistics Department, Wasit Health Department, after providing them with a letter to facilitate a mission, for the purpose of obtaining data on breast cancer patients for the year 2018, 2019 and 2020 Who were diagnosed and confirmed infected with breast cancer by histopathologist by taken biopsy

Results and Discussion

Breast cancer is a public health problem as it is the second commonest cancer with increasing incidence (1 in 8 women aged 45-55) in the world (Fulfordet al, 2006). It is important to note that although over 90% of breast disease is benign, breast cancer is easily diagnosed as the suspicious lump is mostly discovered by the patient who calls the attention of the physician. Most breast cancers are associated with fibrous tissue proliferation (scirrhous) and consequently the tissues surrounding the growth contract clinically and presents as dimpling of the skin and in-drawing of the nipple (Rakhaet al , 2010**;** Maughan et al ,2010). The results showed that breast cancer (in 2018), the total number of injuries was 159 confirmed cases among women aged 25 and over (as shown in Table No.1) The increase in injuries was concentrated in the third trimester, while the rate of cancer incidence witnessed a significant decrease in the second quarter of 2018; In the 19 year 2019, the number of

infections witnessed a significant and unprecedented increase, as the number of infections in the first quarter of 2019 reached approximately 83 infections (as shown in the Table No. 2) , and the reason for the increase in the incidence of the second cancer, including increased age, obesity, harmful use of alcohol, and a family history of cancer Breast, history of radiation exposure, reproductive history (such as the age at which your period began and the age at first pregnancy), tobacco use, postmenopausal hormone therapy.

Table 1: The numbers of breast cancer cases (females) in Wasit Province for ages 25 and over according to the seasons for the year 2018

Year (2018)	Seasons	Breast cancer cases
	Season one	41
	Season two	20
	Season three	55
	Season four	43
	Total	159

Table 2: The numbers of breast cancer cases (females) in Wasit Province for ages 25 and over according to the seasons for the year 2019

Year(2019)	Seasons	Breast cancer cases
	Season one	83
	Season two	66
	Season three	60
	Season four	45
	Total	245

Table 3: The number of Breast Cancer Cases in Wasit Governorate (2020)

Year	Seasons	Breast cancer cases
2020	Total	155

*All of data of theses tables is made according to the statistics of the Wasit Health Department – Iraq

In addition to the statistics for the years 2018 and 2019, the statistics of breast cancer in the year 2020 have reached 155 confirmed cases, and this means a decrease in the incidence of breast cancer and the decrease in breast cancer rates is due to several factors, including: It is believed that these decreases are due to the

progress of treatment and early detection of during the examination (as shown in the Table No. 3). One theory also is that this decrease is partly due to a decrease in the use of hormone replacement therapy (HRT) by women after the results of a large study called the Women's Health Initiative were published in 2002. These results suggested a link between HRT and an increased risk of breast cancer. In recent years, infection rates have increased slightly, at 0.5% per year (Jemal et al, 2009**;** Weledji and Tambe, 2018;American Cancer Society , 2021).

In this study, the result indicated that age has a strong effect on disease incidence and acts as a risk factor because the percentage is higher in older patients. However, the graph indicates an increase in reported breast cancer cases in subsequent years. This may be a result of a lack of awareness about ways to control and prevent breast cancer in the community. The government and / or the Ministry of Health, in cooperation with the general public and most importantly, the NGOs, must work together diligently to achieve the goal of reducing the incidence of breast cancer in the governorate (Etikanet al , 2016) . This should be done by carefully considering the risk factors. Age was the compound variable for these studies. Based on the result obtained, women of the age of 35 and over have the highest percentage (29%) of reported breast cancer cases and the cases increase significantly annually in Wasit Governorate.

Overall, these findings justify the increased efforts to establish comprehensive breast cancer control programs in Iraq, with a temporary focus on promoting education and early diagnosis as key approaches to disease control. The stark patterns of breast cancer among women in our region highlight the urgent need to consider early detection of the disease as a priority.
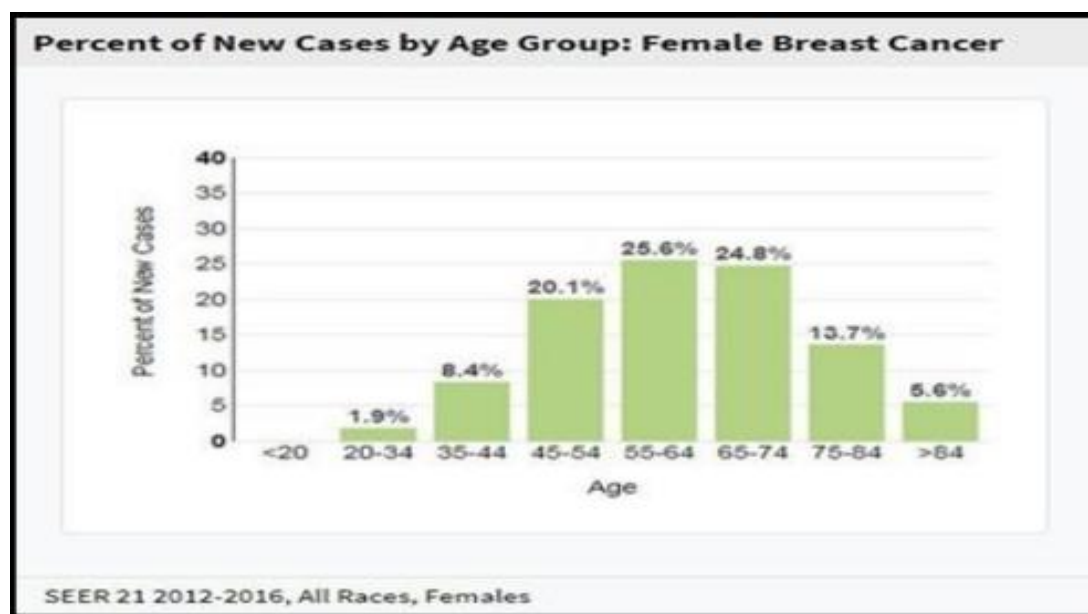
Percent of New Cases by Age Group: Female Breast Cancer

Percent of New Cases

40	
35	
30	25.6% 24.8%
25	
20	20.1%
15	13.7%
10	8.4%
5	1.9% 6.6%
0	

<20 20-34 35-44 45-54 55-64 65-74 75-84 >84

Age

SEER 21 2012-2016, All Races, Females

Figure 1: Percent of new cases according to the age

Percent of Deaths by Age Group: Female Breast Cancer

Percent of Deaths

40	
35	
30	
25	21.8% 22.9%
20	19.7% 17.0%
15	12.9%
10	
5	4.7%
0	0.9%

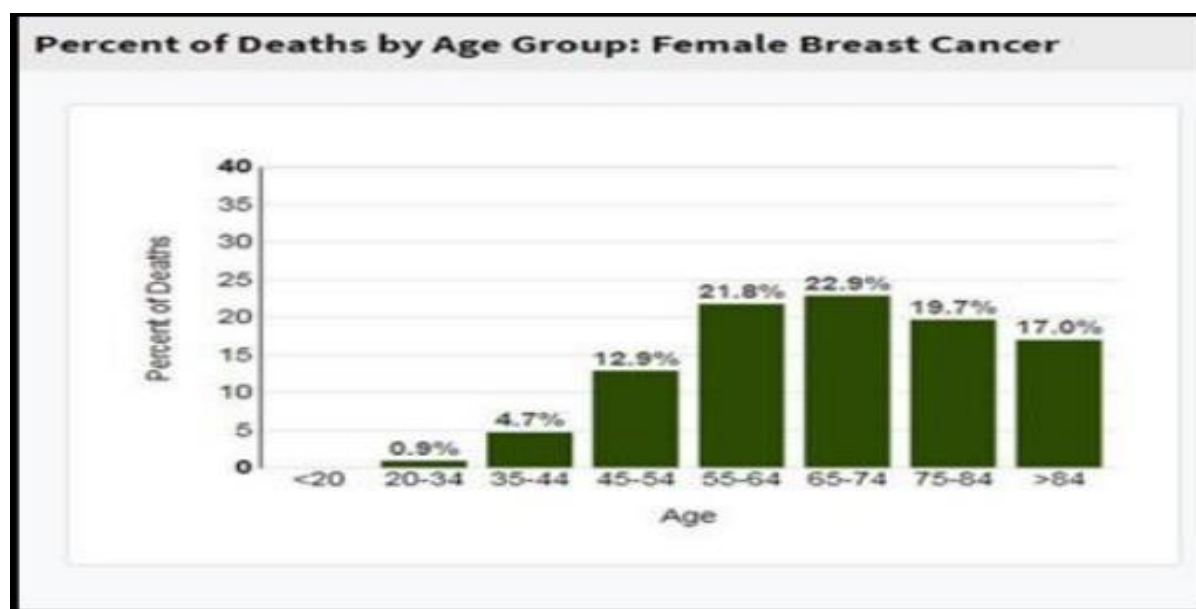<20 20-34 35-44 45-54 55-64 65-74 75-84 >84

Age

Figure 2: Percent of Death in breast cancer according to the age

Comparing our statistics with those reported in high-resource settings, particularly significant differences are shown regarding disease staging, with 61%, 32%, and 6% of localized breast cancer cases. And regional and distant phases respectively. However, Iraq, classified as a middle-income country by the World Health Organization / Regional Office for the Middle East, documents much better 22 predictive indicators than those recorded in low-resource settings where the number of breast cancer cases in the year 2019 was approximately 268,600. Infections around the year, the number of injuries in Iraq has reached approximately 245, of which

twothirds of the cases are detected in advanced stages; the average time from symptom onset to the time to seek medical advice is close to 3 years.

CONCLUSION

The incidence of breast cancer increased with increased of age, obesity, harmful use of alcohol, and a family history of cancer Breast, history of radiation exposure, reproductive history (such as the age at which your period began and the age at first pregnancy), tobacco use, postmenopausal hormone therapy. Also the age has a strong effect on disease incidence and acts as a risk factor because the percentage is higher in older patients.

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