

# Epidemiology of Breast Cancer in Baghdad City 2018

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## Abstract

**Objective (s):** To highlight the epidemiology of breast cancer in Baghdad City for the year of 2018.

**Methodology:** A descriptive design is employed throughout the present study. All registered women with breast cancer are included in the sample of the study. Data are obtained from Iraqi Cancer Board, Iraqi Cancer Registry for the year of 2018. Descriptive statistics is applied for the data analysis of frequency and percent and measurement of the incidence rate of the disease.

**Results:** the study findings revealed that The most common kind of cancer is breast cancer in Baghdad City (22.2%) with a highest incidence rate among Baghdad City's population at the year of 2018, (20.52). Among Iraqi females, the most prevalent type of cancer is breast form in Baghdad City in 2018, (37.26%), especially at age group of (46-55) (34.79%).

**Conclusion:** The findings of the study show among Iraqi women, there has been a rise in the incidence rate of breast cancer in Baghdad City in 2018, among the age group of (46-55), and Rissaffa District has the highest incidence rate of its population from the other districts in Baghdad City.

**Recommendations:** Prevention measures must be undertaken, and awareness campaigns must be organized to emphasize the need of early identification and treatment. Women aged 40 to 44 should be able to start yearly mammogram (breast x-ray) screening for breast cancer if they choose. Women between the ages of 45 and 54 should have mammograms once a year. Mammograms should be performed every two years rather than annually for women over the age of 55.

**Keywords:** Epidemiology, Breast Cancer, Baghdad City.

## INTRODUCTION

The leading cause of cancer-related deaths among women globally is breast cancer. In the year 2020, (685, 000) deaths worldwide and (2.3) million new cases of breast cancer in women. It is the most prevalent cancer in the world, affecting women at any age after puberty but with a growing frequency in later life (WHO, 2021). In (140) of the (184) countries in the globe, women are diagnosed with it the most frequently (1). In 2020, Belgian women will have the greatest rate of breast cancer, followed by Dutch women. China and Japan have the lowest rates of breast cancer mortality, with rates ranging from 6% to 7%. In comparison, breast cancer death rates in industrialized European and North American countries range from 20% to 25% (2). Only the female gender and age of the patient are established risk factors for breast cancer, which account for around half of all cases (over 40 years). Breast cancer risk factors include age, obesity, family history, radiation exposure history, reproductive history (including the age at which menstruation started and the age at which the first pregnancy occurred), cigarette usage, and postmenopausal hormone therapy (3). In contrast to the global average (46/100,000), the Arab region had a lower incidence of breast cancer in 2016 (28/100,000). However, the incidence rates are substantially reduced in comparison to Western Europe (148/100,000) (4). According to Iraq's most current Cancer Registry, Over one-third of all known cases of female cancer are breast cancer, making it the most prevalent kind. This indicates that the breast is the most common cancer location in the Iraqi population, exceeding even bronchogenic carcinoma (5). Breast cancer ASIR Iraq has been found to have showed a considerably growing trend, with a (+3.192%) average annual percentage change (AAPC) between 2000 and 2019. In addition, incidence of breast cancer has significantly increased in all age groups (6). This study's goal is to shed light on the breast cancer epidemiology in Baghdad City in 2018.

## Methodology:

A descriptive design is employed throughout the present study. Official permission has been granted from Iraqi Cancer Board for conducting the study. The study sample consists of every breast cancer patient who has ever been recorded. Data are obtained from Iraqi Cancer Board, Iraqi Cancer Registry for the year of 2018. Descriptive statistics is applied for the data analysis of frequency and percent and measurement of the incidence rate of the disease.

## Results:

Table (1): Distribution of Baghdad's City Top Ten Cancers, Iraq, 2018

List	Top Ten Cancers	Frequency	Percent
1	Breast Cancer	1,630	22.17
2	Bronchus and Lung Cancer	607	8.19
3	Colorectal Cancer	479	6.47
4	Leukaemia	406	5.48
5	CNS and brain tumor cancer	363	4.90
6	Thyroid Gland Cancer	351	4.74
7	Non-Hodgkin Lymphoma Cancer	323	4.36
8	Urinary Bladder Cancer	296	4.00
9	Unknown Primary Site Cancer	246	3.32
10	Prostate Cancer	243	3.28
Total Top Ten Cancer		4,944	67.26
Total Other Site Cancers		2,425	32.74
Total		7,407	100

This table demonstrates the top ten cancers in Baghdad City for the year 2018, it depicts that breast cancer is the most prevalent type (22.17%).

Table (2): Top 10 Cancer Incidence Rate in Baghdad City/100,000 Population of Baghdad, Iraq, 2018

List	Top Ten Cancers	Incidence Rate
1	Breast Cancer	20.52
2	Bronchus and Lung Cancers	7.47
3	Prostate Cancers	5.89
4	Colorectal Cancers	5.89
5	Leukemia	5
6	Brain and CNS Cancers	4.47
7	Thyroid Gland Cancers	4.32
8	Non-Hodgkin Lymphoma	3.97
9	Urinary Bladder Cancers	3.64
10	Unknown Primary Site Cancers	3.03

According to this data, breast cancer has the highest incidence rate among Baghdad City's population (20.52%) in 2018, while the lowest rate is for unknown primary site cancers (3.03%).

Table (3): Top Ten Female Cancers by Distribution in Baghdad City, Iraq, 2018

List	Top Ten Cancers	Frequency	Percent
1	Breast Cancer	1,639	37.26
2	Thyroid Gland Cancer	278	6.32
3	Colorectal Cancer	221	5.02

4	Ovary Cancer	202	4.59
5	Leukaemia	192	4.36
6	Bronchus and Lung Cancer	179	4.07
7	CNS and Braine Cancer	163	3.71
8	Non-Hodgkin Lymphoma	144	3.27
9	Corpus Uteri Cancer	140	3.18
10	Unknown Primary Site Cancer	125	2.84
Total Top Ten Cancers		3,283	74.63
Total Other Site Cancers		1,116	25.37
Total		4,399	100

This table reveals that breast cancer is the most predominate type among Iraqi Females in Baghdad City (37.26%) for the year of 2018, while the lowest rate is for unknown primary site cancers (2.84%).

Table (4): Top 10 Female Cancer Incidence Rate, Baghdad/100,000 Female Population, Iraq, 2018

List	Top Ten Cancers	Incidence Rate
1	Breast Cancer	40.92
2	Thyroid Gland Cancer	6.94
3	Colorectal Cancer	5.52
4	Ovary Cancer	5.05
5	Leukemia	4.8
6	Bronchus and Lung Cancer	4.47
7	Brain and CNS Cancer	4.07
8	Non-Hodgkin Lymphoma	3.6
9	Corpus Uteri Cancer	3.5
10	Unknown Primary Site Cancer	3.12

This table illustrates that the most prevalent malignancy is breast cancer among Baghdad City's female population (40.92) at the year of 2018, while the lowest rate is for unknown primary site cancer (3.12).

Table (5): Distribution of Women's Breast Cancer by Age in Baghdad City, Iraq, 2018

Age (Years)	Frequency	Percent
16-25	13	0.79
26-35	104	6.38
35-45	323	19.82
46-55	567	34.79
56-65	363	22.27
66-75	183	11.23
76-85	69	4.23
86-95	6	0.37
96- >	2	0.12
Total	1,630	100

Results, out of this table, present that women at age group of (46-55) have developed breast cancer more than other age groups (34.79%).

Table (6): Breast Cancer Incidence and Distribution by Baghdad Districts/100,000 Baghdad Population, Iraq, 2018

Districts	Frequency	Incidence Rate
Abu Graib	30	9.29
Al-Adhamyia	289	24.03
Al-Kadhimyiah	184	20.50

Al-Karkh	395	24.79
AlMadain	58	12.62
Al-Mahmoodyia	44	9.09
Al-Sadir	213	17.58
Al-Tarmia	5	3.45
Rissaffa	450	24.87

This table depicts that Rissaffa District in Baghdad City has the highest incidence rate of breast cancer among its population at the year of 2018 (24.87), while the lowest rate is in Al-Tarmia District population (3.45).

## Discussion:

By 2021, breast cancer will be the most common illness globally, according to the World Health Organization, 13% of new cancer cases globally. (7). Epidemiology is important in cancer prevention and control because it describes cancer spread and identifies cancer risk factors. Descriptive, ecological, cross-sectional, and analytical (cohort, case-control, and intervention) studies are a few types of epidemiologic study designs (8). The current study with a descriptive design aims to demonstrate the epidemiology of breast cancers among Iraqi women through its incidence at 2018 in Baghdad City. Analysis of the study results reveals that In Baghdad, breast cancer is the most prevalent kind (22.2%) and has the highest incidence rate among residents of Baghdad City in 2018 (20.52).The frequency of all female breast cancer in Iraq increased between 2000 and 2009, according to data from the Iraqi Cancer Registry. We discovered a substantial increase in the age-specific incidence rate among those aged 60 to 69 (9).Between 2000 and 2019, 72,022 women in Iraq were diagnosed with breast cancer. Average ASIR (age-standardized incidence rate) is 37.883 per 100,000. As of ASIR Iraq, the average annual percentage change (AAPC) for breast cancer was +3.192 percent. Additionally, Women aged 40 to 49 (AAPC = +2.162%), 50 to 59 (AAPC = +3.210%), 60 to 69 (AAPC = +5.551%), and 70 and older (AAPC = +7.943%) have shown a considerable rise in the incidence of breast cancer. As measured by the ASIR, Iraq has a modest risk of breast cancer in comparison to other nations throughout the world. In conclusion, our data showed that, among Iraqi women, Breast cancer cases have risen between 2000 and 2019 (10,11).In 2018 in Baghdad City, Breast cancer was the most common malignancy among Iraqi women (37.26%). At the same year, incidence rate for every 100.000 of women population is (40.92) and it was the highest incidence rate among Baghdad City's female population of all cancers types, women at age group of (46-55) have developed breast cancer more than other age groups (34.79%). With a retrospective cross-sectional research conducted in 2018 at the National Center of Cancer on a sample of 171 patients, the study's goal is to explain the manner in which Iraqi women with breast cancer exhibit themselves. Patients make up 55% of the total population, and 25% are under the age of 45. Overall, 25% of patients have stage IV cancer, 24.1 percent have metastases, and 42.9 percent of patients have stage III disease (12). Most women with breast cancer are older than middle age. When a breast cancer diagnosis is made, the median age is (62). According to this, 62 years of age or younger is the median age of breast cancer diagnosis among women. Breast cancer patients under the age of 45 make up a very small fraction of all cases (13).In Iraq, several researches show that later in life is when breast cancer is most prevalent. In the current study findings, it is predicted that between all Baghdad City's Districts, Rissaffa District has the highest incidence rate of its population (24.87). This finding can be interpreted in a way that the incidence rate is high due to the fact that this district is highly populated area in Baghdad City.From the year 2000 (52.00/100,000) to the year 2019 (91.66/100,000), the number of new cancer cases in Iraq increased. Breast cancer is the leading cause of mortality for women in Iraq, accounting for about one-third of all cancer cases reported in the nation in 2019. Among the top ten malignancies, breast cancer had the greatest percentage and incidence rate (34.08% and 35.95/100,000, respectively), same, cancer death rates are greatest (22.58% and 6.22/100,000, respectively) (14).

## Conclusion:

The study's findings indicate that in 2018 Iraqi women residing in Baghdad now have a higher prevalence of breast cancer, among the age group of (46-55) and Rissaffa District has the highest incidence rate of its population from the other districts in Baghdad City.

## Recommendations:

1. Prevention measures must be undertaken, and awareness campaigns must be organized to emphasize the need of early identification and treatment.
2. Mammograms (breast x-rays) should be used to begin women's yearly breast cancer screening between the ages of 40 and 44, if they want to do so. Women between the ages of 45 and 54 should have mammograms once a year. Mammograms should be performed every two years rather than annually for women over the age of 55.
3. More research is required to determine the causes of risk factors such as obesity, to prevent and treat breast cancer, dietary modifications, inactivity, smoking, a late marriage age, and low birth rates are recommended.

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