

Female Cancers: Incidence, Characteristics and Death Rate in Misan Province, Iraq

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Abstract: Cancer makes over 8 million deaths worldwide in 2013 and has progressed from the third main cause of death in 1990 to the second main cause of cardiovascular disease in 2013. **Objective:** To determine the incidence, characteristics & death rate of female cancers among women in Misan province during 2014-2016. **Methods:** a cross-sectional study was conducted in Misan city, Iraq during 2014-2016; the data were collected from the cancer registry unit regarding a female tumour. **Results:** 1183 case of cancer were included, 545 cases of them were with breast cancer, 184 (33.8%) in 2014, 172 (31.6%) in 2015, and 189 (34.6%) in the year 2016. Most of the breast cancer was in the age group 45-64 years (50.3%). More than 60% of breast cancer and other cancers lived in urban areas. 81.5% of breast cancer and 91.5% of other types of a tumour occurred in housewives. The specific death rate of breast cancer was 24% while in other tumours it was 50.3%. The incidence rate of a female tumour, in general, has declined through the period of study, while the death rate of a breast tumour has increased slightly more than in other tumours. This indicates that breast cancer rate represent half of all female tumours and its death rate increased slightly more than other tumours.

Keywords: breast cancer, female tumour, death rate, Misan, Iraq

1. Introduction

Cancer is the second main cause of death worldwide, by contributing for 8.8 million death in only 2015. Breast, cancer are the most frequent among women. According to new studies, between 30% and 50% of cancer deaths could be stopped by adjusting or avoiding key risk factors, like avoiding tobacco products, decreasing alcohol consumption, keeping a healthy body weight, exercising regularly and addressing infection-related risk factors. [1] Cancer had changed from the third main cause of death in 1990 to the second main cause after cardiovascular disease in 2013. [2] Cancer burden is increasing owing to a rising in the ageing population worldwide in addition smoking, obesity, and dietary patterns are risk factors. The main causes of breast cancer are late marriages, delay in having children, inadequate breastfeeding of the child, family history, obesity & even pollution. [3]

About 57% of all cancers occur in developing countries and 43% occur in developed countries, while developed countries showed higher age-standardized cancer rate. There were 268 cases of cancer diagnosed per 100,000 in more developed areas, compared to 148 in less developed areas in 2012. [4] The age-standardized cancer incidence rate is 25% higher in men than in women. [4]

The four most frequent cancers occurring globally are lung, female breast, bowel and prostate cancer. [1] In Iraq, the mortality from cancer was 167,000 from the total population: 32,778,000 (9000 females, 8300 males). Breast cancer was the main cause of cancer death in females (21.9%), with trachea, bronchus, lung in males (17.2%). [5]

2. Material & methods

A cross-sectional study, it was done during the year 2016 in Misan province, Iraq, in which records of the cancer registry unit were reviewed for the years (2014, 2015 and 2016). The data were collected regarding demography, cancer type, and cancer status. Data were collected using a special formula which was formed by the investigator.

Ethical approval and official permission were obtained from Misan medical college / university of Misan to conduct the present study, which was done in accordance with Helinesky declaration of clinical research.

The analysis of data carried out using the available statistical packages for social science, SPSS 20.0.0 (Chicago, IL). Chi-square test (χ^2 -test) was used to test the significance of the association between variables under study. Statistical significance was considered whenever the P-value was equal or less than 0.05

3. Results

A sample of 1183 cases of cancer was reviewed for three years period, 545 breast cancer cases that registered: in the year 2014, 184 case (33.8%), in 2015, 172 case (31.6%) in 2016, 189 case (34.6%). The result for other tumours was 207 cases in 2014, 242 cases in 2015 & 189 case in 2016 as shown in table 1.

Table1: Distribution of tumour types according to a year of registry

Year	Breast cancer		Other tumours		Total		p-value
	N	%	N	%	N	%	
2014	184	33.8	207	32.5	391	33	0.050
2015	172	31.6	242	37.9	414	35	
2016	189	34.6	189	29.6	378	32	
Total	545	46	638	54	1183	100	

Most of the breast cancer was in the age group 45-64 years (50.3%) and less in the age group above 65year (18.9%) while in other tumours most of the cases were in the age group above 65 years (39.7%). It shows a statistically significant association (p-value 0.001), as shown in table 2.

Table 2: Distribution of tumour types according to age group

Age groups	Breast cancer		Other tumours		Total		p-value
	N	%	N	%	N	%	
15 – 44 years	168	30.8	146	22.9	314	26.5	0.001
45 – 64 years	274	50.3	239	37.5	513	43.4	
> 65 years	103	18.9	253	39.7	356	30.1	
Total	545	100	638	100	1183	100	

Regarding residency; 63.6% of breast cancer patients and 62.1% of other types of tumour lived in urban areas while the rest lived in rural areas with a statistically significant association (p-value 0.001), as shown in table 3.

Table 3: Distribution of tumour types according to residency

Residency	Breast cancer		Other tumours		Total		p-value
	N	%	N	%	N	%	
Urban	347	63.6	396	62.1	743	62.8	0.001
Rural	198	36.4	242	37.9	440	37.2	
Total	545	100	638	100	1183	100	

This study found that the specific death rate of breast cancer was 24% while in other tumours it was 50.3% with statistically significance association, as shown in table 4.

Table 4: Distribution of tumour types according to the status of the patients

Death rate	Breast cancer		Other tumours		Total		p-value
	N	%	N	%	N	%	
Alive	415	76	317	49.7	732	61.9	0.001
Dead	130	24	321	50.3	451	38.1	
Total	545	100	638	100	1183	100.0	

Regarding the incidence and death rate of female tumour during the study period (2014-2016); we found that the incidence rate of female tumour in general has declined through the period of study (figure 1), while the death rate of breast tumour has increased slightly more than in other tumours in general as shown in figure 2.

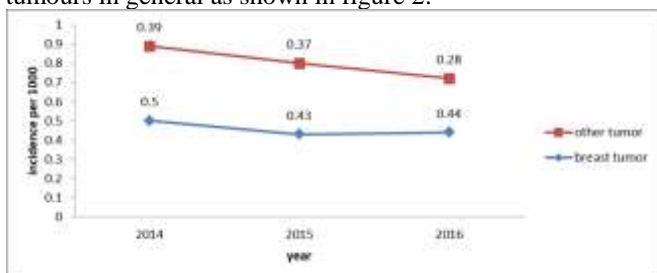


Figure 1: Incidence rate of female tumour

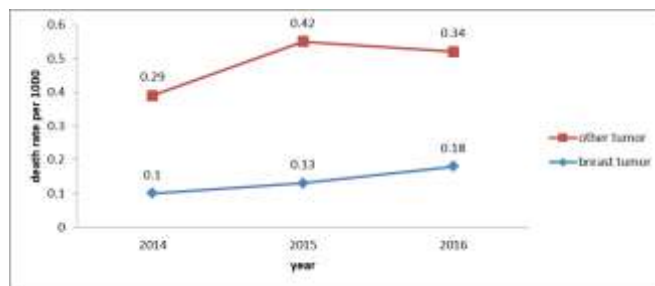


Figure 2: Death rate of female tumour

4. Discussion

The incidence of breast cancer appears to be increasing world-wide. [6] Breast cancer is the most frequent cancer in females in Misan province with an incidence rate of 46% from all female cancers, and this high incidence is also recorded in other regions in Iraq like Basra, Sulaymaniyah and in Iraq as a whole. [7, 8]

During the study period, 50.3% of breast cancer was seen in women between 45- 64 years old, and it becomes 18.9 % as the women age increases above 65 years. This result is the same as a study done in Sulaymaniyah (north of Iraq). [7] But the age of high risk of breast cancer in the US is different. The rates begin to rise after 40 years and are highest in women over 70 years. The median age of diagnosis of breast cancer for women in the U.S is 62 years, [9] and this is different from this study.

In the current study 63.6% of breast cancer and 62.1% of other female cancer patients, reside in urban areas. This result is similar to a study done in India. [10] Women who live in urban areas appear to have more dense breast tissue than their suburban or rural counterparts, this result of new research which suggests this breast change as a cause for breast cancer in urban areas. The Harvard Medical School study found an association between living in areas with high amounts of night-time light and slightly increased odds for breast cancer in younger women who smoke. [11] In Misan province still, the reasons are unclear, environment pollution, type of nutrition and war sequelae may all play a role.

The incidence rate of female cancer has declined during the study period. This result is the same as a study in Basra governorate. [12] Maybe the cause of this decrease in incidence in our province is the better registration and classification of cancer cases in the last years, or the patients escaped from registration because they consult outside this province. And also part of this decline is the awareness of the people.

The study showed that the death rate for breast cancer has increased during the study period, and this may be due to late diagnosis and treatment or maybe those who escaped out of the province when they return back they came with advanced stages. While in United States, breast cancer death rates declined 39% from 1989 to 2015 among women. This progress is attributed to improvements in early detection. [13]

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