WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 7, Issue 12, 43-50. Research Article ISSN 2277– 7105

EVALUATION THE RISK FACTOR OF BREAST CANCER AMONG WOMEN IN AL-ELWIYAH TEACHING HOSPITAL IN BAGHDAD/ IRAQ

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Article Received on
23 April 2018,

Revised on 14 May 2018,
Accepted on 04 June 2018

DOI: 10.20959/wjpr201812-12552

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ABSTRACT

Introduction: - Iraq suffers from the pollution of water, air, and soil caused by the emissions of cars and generators in crowded areas, and excessive use of chemical fertilizers, in addition to the remnants of war and depleted uranium bombardment. **Aims**: to determine the risk factor associated with breast cancer in women in Al-Elwiyah teaching hospital in Baghdad. **Methodology**: - A cross-sectional study was conducted in Al-Elwiyah teaching hospital in Baghdad during the period from 1st October 2017 to 30th April 2018. A sample size of this study was (93) case. The data was collected through a constructed questionnaire for this purpose which consists of age, education, family history, marital status, grade, risk factor… etc.). The data analysis through Stata version 12. **Results**: - the mean and SD of age was 43.15054 ± 1.245745 with 95 CI (40.67638, 45.62469) and 49/93(52.69%) was in the age group more than 40 years and 33/93 (35.4%) of samples had college certificate. 78/93(83.9%) were married. The highest frequency of samples of ages more than 40 years; 31/59 (52.5%) had a family history of breast cancer. there is no statistically significant between the family history and ages at $p<0.05$. the correlation between family and smoking. It is positive, indicating that as the family score increases, we expect that the smoking score also increases. While the correlation between smoking and parity. It is negative, indicating that as the smoking score

decrease, we expect that the parity score also decrease. Conclusion and recommendation: Half of the cases still in the age group more than 40 years and the majority were married. The highest frequency of cases had a family history of breast cancer. There is no statistically significant between the family history and ages at p<0.05. Most cases had a history of smoking .there is no statistically significant between BMI and ages at p<0.05. We recommended having a strong programme in management and screening of all cases under risk to help us to identify the case of breast cancer in early stages.

KEYWORD: Cancer, breast, smoking, Iraq, history, parity, correlation.

INTRODUCTION

Over the past few years, rates of cancer in Iraq have increased, compared with their rates in the early years following the US invasion of the country in 2003, due to increased environmental pollution problems, particularly in the southern provinces. Iraq suffers from the pollution of water, air, and soil caused by the emissions of cars and generators in crowded areas, and excessive use of chemical fertilizers, in addition to the remnants of war and depleted uranium bombardment.[1] Cancer patients in Iraq suffer from a lack of medicines and poor care in government health centers to treat cancer, most of which lead to self-reliance in the purchase of medicines, or travel abroad for treatment.[2] Cancer is one of the most important causes of death worldwide, and the number of new cases is approximately 14 million in 2012, and in 2015 it killed 8.8 million people, one in six deaths, according to the World Health Organization.[3]

Breast cancer is the fifth largest cancer in the world, with 571,000 deaths out of 8.8 million deaths in 2015.[3] In addition, the annual rate of cancer in Iraq is 2500 cases, including 20% of breast cancer.[1] According to Ministry of Health figures, more than 25,000 cancer cases have been registered in Iraq so far, mostly due to remnants of war and some types of munitions and weapons used during the invasion of Iraq in 2003.[4]

There are many health centers opened in Baghdad and the provinces of the south, but the problem of financial allocations has greatly affected the provision of medicines to people suffering from cancer, which leads some of them to rely on themselves in the search for treatment, or travel abroad for the purpose of treatment.[5] Also, the Government agencies in Iraq do not give accurate and comprehensive statistics on the number of cancer patients in

recent years. Because of that, we need to determine the risk factor associated with breast cancer in women in Al-Wiyah teaching hospital in Baghdad.

METHODOLOGY

A cross-sectional study was conducted in Al-Elwiyah teaching hospital in Baghdad during the period from 1st October 2017 to 30th April 2018. A sample size of this study was (93) case. The data was collected through a constructed questionnaire for this purpose which consists of age, education, family history, marital status, grade, risk factor… etc.). The data analysis through Stata version 12.

RESULTS

Out of 93 of studied sample, the mean and SD of age was 43.15054 ± 1.245745 with 95 CI (40.67638, 45.62469) and 49/93(52.69%) was in the age group more than 40 years and 33/93 (35.4%) of samples had college certificate. 78/93(83.9%) were married [table1].

Table1: Characteristic of women according to age groups and education.

Age groups	Frequency	Percentage
20-30	15	16.13
31-40	29	31.18
>40	49	52.69
Education		
Illiterate	14	15.1
Intermediate	25	26.9
Secondary	21	22.6
College	33	35.4
Marital status		
Married	78	83.9
Single	15	16.1

For the risk factors and age groups. The highest frequency of samples of ages more than 40 years; 31/59 (52.5%) had a family history of breast cancer. there is no statistically significant between the family history and ages at $p<0.05$. also, the history of cases was smoking in the age of more than 40 years of 21/34(61.8%). Then, the majority of samples of the ages more than 40 years had abortion history of 31/46(67.4%) and there is a significant relationship between abortion and ages at $p<0.05$. for body mass index, the highest frequency of samples 39/63(61.9%) of age more than 40 had a BMI more or equal to 30, and there is no statistically significant between BMI and ages at $p<0.05$. for Menarche at less than 12, 29/52(55.8%) of age more than 40 years and there is no statistically significant between Menarche and age group of $p<0.05$[table2].

Table 2: Distribution of women according to the risk factor of breast cancer by age group.

Risk factor	Age group								
	20-30		31-40		>40		Total		
Family history	**F.**	**%**	**F.**	**%**	**F.**	**%**	**F.**	**%**	
Yes	12	20.4	16	27.1	31	52.5	59	100	The chi-square statistic is 2.6289. The p-value is .268627. The result is not significant at p < .05.
No	3	8.8	13	38.3	18	52.9	34	100	
Smoking history									The chi-square statistic is 4.3503. The p-value is .113594. The result is not significant at p < .05.
Smoker	2	5.9	11	32.4	21	61.8	34	100	
non smoker	13	22	18	30.5	28	47.5	59	100	
Abortion									The chi-square statistic is 14.7411. The p-value is .00063. The result is significant at p < .05.
Yes	1	2.2	14	30.4	31	67.4	46	100	
No	14	29.8	15	31.9	18	38.3	47	100	
BMI									
18.5-24.9	0	0	3	75	1	25	4	100	The chi-square statistic is 7.8843. The p-value is .09591. The result is not significant at p < .05.
25-29.9	6	23.1	11	42.3	9	34.6	26	100	
≥30	9	14.3	15	23.8	39	61.9	63	100	
Menarche									The chi-square statistic is 3.7609. The p-value is .15252. The result is not significant at p < .05.
<12	5	9.6	18	34.6	29	55.8	52	100	
>12	10	24.4	11	26.8	20	48.8	41	100	

The correlation coefficient can range from -1 to +1, with -1 indicating a perfect negative correlation, +1 indicating a perfect positive correlation, and 0 indicating no correlation at all. In this table shows that, the correlation between family and smoking. It is positive, indicating that as the family score increases, we expect that the smoking score also increases [table 3]. While the correlation between smoking and parity. It is negative, indicating that as the smoking score decrease, we expect that the parity score also decrease. Also, the correlation between parity and activity. It is positive, indicating that as the parity score increases, we expect that the activity score also increases, and the correlation between Menarche and BMI, It is positive, indicating that as the Menarche score increase, we expect that the BMI score also increase [table 3].

Table 3: Correlation family smoking parity abortion activity menarche BMI.

	Family	Smoking	Parity	Abortion	Activity	Menarche	BMI
Family	1.0000						
	93						
Smoking	0.1590	1.0000					
	0.1279						
	93	93					
Parity	0.1484	-0.2866	1.0000				
	0.1558	0.0054					
	93	93	93				

abortion	-0.0975	-0.0812	-0.0851	1.0000			
	0.3526	0.4394	0.4172				
	93	93	93	93			
Activity	-0.0824	-0.3316	0.3995	-0.2181	1.0000		
	0.4326	0.0012	0.0001	0.0357			
	93	93	93	93	93		
Menarche	0.0248	0.1400	-0.2471	0.0022	-0.1367	1.0000	
	0.8134	0.1808	0.0169	0.9832	0.1915		
	93	93	93	93	93	93	
BMI	0.0295	0.0076	0.0327	-0.0824	0.0142	0.1081	1.0000
	0.7793	0.9426	0.7557	0.4321	0.8924	0.3024	
	93	93	93	93	93	93	93

DISCUSSION

Aims of this study to determine the risk factors associated with breast cancer in women in Al-Elwiyah teaching hospital in Baghdad. Age is one of the most serious risk factors, with the majority of cases occurring in women aged 55 or older. Our finding of this study found that the mean age of women was 43.1 years and compared with another study in Iraq[1], they found that the mean age was 56 years, this refers to some difference in some habits between them.

Also, we found that the most women (52.69%) were in the age group more than 40 years and compare with another study in Iraq[5], the authors found that 58.4% were in the age 50-59 years, this refers to differences in lifestyle and habits between them.

In our study, we found that (35.4%) of women had college certificate. Another study in Iraq[1], they found the majority of women have secondary education. this refers to most of the women are preferring to sit in the house and marriage, take care of her family and don't like to go to school and in addition, the situation of our country and insecurity, all of these led to escape from school. The majority (83.9%) of women were married and it's similar to another study in Iraq[1], this similarity refers to when you don't have education, job, you should decide to get married.

Family history, especially the "mother, sister, daughter" with breast cancer or ovarian cancer, also is part of the risk factor. In our study, we found that the highest frequency of samples (52.5%) had a family history of breast cancer. compared with another study in US[6] and Turkey.[7] they found the history of the family is also affect to get the disease but the percentage is not high compared with our result, this difference refers to war and the use of uranium, radioactive materials, and contaminants that have led to an increased incidence of

breast cancer. There is no statistically significant between the family history and ages at $p<0.05$.

When a woman smokes cigarettes, shisha or any other means through which the carcinogenic components of tobacco enter the body, it increases the risk of breast cancer. According to a number of scientific studies, the relationship of active smoking to breast cancer can be summed up in the following points; the rate of breast cancer among women smokers is about 30 percent higher than that of women who never smoked. After menopause and when estrogen levels are low, the current or long-term smoker who started smoking before the age of 25 has a 30 to 40 percent increase in the risk of breast cancer. If she smoked after menopause and smoked for 20 years or more and used hormone replacement therapy that raises estrogen levels (she may use it to treat osteoporosis, for example), the risk of breast cancer is 50 percent.[8] In our study found that (61.8%) of women had a smoking history and a similar study in Yemen.[9] Refers to similar traditions and customs between countries.

Recent scientific research in various medical fields in the world has been proven from the results of the hormonal cause of this 25 scientific studies around the world, especially in women from Africa, Asia, and Europe have shown an increase in the proportion of breast cancer even from a single abortion.[10,11] The risk of miscarriage with the risk of delayed birth of the first child increases the proportion of breast cancer twice.[12] In this study, we found that the majority of women (67.4%) had abortion history and there is a significant relationship between abortion and ages at $p<0.05$. compared with another result in Iraq[12] and in Pakistan.[13] the result is different from our results, it may be a different culture, different lifestyle between countries. Women who are overweight or obese are more likely to develop postmenopausal breast cancer than women with normal weight, according to a large analytical study.[14] The researchers found that the risk of cancer increases with weight gain.[14] Obese women are also more likely to have the most common type of breast cancer and other more advanced types of 86 percent.

For body mass index, the highest frequency of women (61.9%) had a BMI more or equal to 30, and there is no statistically significant between BMI and ages at $p<0.05$. and compared with the result in Jordan[15], the authors found that the majority of cases had normal BMI and this refers to differences in lifestyle and type of food, physical activity between countries.

Early puberty, before the age of 12 years, also is a constant factor that cannot be controlled. In this study found that (55.8%) of women had menarche at age < 12 years and there is no statistically significant between Menarche and age group of $p<0.05$, and compared with the result in Jordan.[16] the authors found Most cases have an early age of puberty. refers to similar traditions and customs between Arab countries.

CONCLUSIONS

Half of the cases still in the age group more than 40 years and the majority were married. The highest frequency of cases had a family history of breast cancer. There is no statistically significant between the family history and ages at $p<0.05$. Most cases had a history of smoking .there is no statistically significant between BMI and ages at $p<0.05$.

RECOMMENDATION

We recommended having a strong programme in management and screening of all cases under risk to help us to identify the case of breast cancer in early stages.

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