



## Breast Cancer Risk Factors among Women Getting Mammogram Screening at Azadi Hospital and Private Mammographic Clinics in Kirkuk City

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### Abstract

**Background:** Breast lesions form a heterogeneous group of illnesses that affect epithelial and stromal tissues of breast. There are many factors such as demographic, social and biomedical hazard act as breast lesion development; generally, these factors can be grouped into hazard factors that can be altered (modifiable) and hazard factors that cannot be altered (non-modifiable).

**Objectives:** To identify breast cancer risk factors of breast among women attending to mammographic clinics in Kirkuk City.

**Methods:** A descriptive study design carried out in Kirkuk City among (100) women getting mammogram screening, selected by purposive (non-probability) sample. The study initiated from (September 26<sup>th</sup>, 2020 –June 27<sup>th</sup>, 2021).

**Results:** Fifty-one percent of women who visited the mammogram clinics were belong 40-49 years old with average age 44±9 years. Only 9% of women were smoking. While 21% of them were reporting that they were ex-smokers and 55% of them were some one smoked around. Only 6% of women were playing sport as running (3%) and daily walk (3%) that showed significant difference at p-value= 0.041. And the findings showed that 38% of them were eating a lot of sweet, but that was statistically insignificant. Most of women were eating a lot of fat and carbohydrate (84%) that showed significant difference at p-value = 0.029. Meanwhile only 34% of women were eating red meat, 56%, eating white meat, and 71% eating fresh fruit and vegetable but all that were statistically insignificant appeared.

**Conclusion:** Age and unhealthy physical and dietary behaviour may associate with breast health problems.

**Key words:** Risk Factors, Breast Lesions, Women.

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**Introduction:**

Breast lesions form a heterogeneous group of illnesses that affect epithelial and stromal tissues of breast. It is classified into two broad types; as benign and malignant lesions. Benign breast disorders are more predominant than malignant lesions and include inflammatory, congenital anomalies or malformations, and benign proliferation of breast tissue. The most prevalent benign lesions are fibroadenomas, which make up nearly half of total cases of benign diseases (Heda et al., 2017; klassen et al., 2019).

Malignant lesions of the glandular breast are classified into two types based on their origin. They could be ductal or lobular breast lesions. Indeed, the malignant lesions are responsible for (3%-6%) of breast lesions (Stachs et al., 2019).

Despite of these data the mortality and morbidity due to breast malignancies are increased around world in both developed and developing countries (Nwadike et al., 2018).

In 2018, around 18.1 million novel instances of cancer were detected, worldwide, with 9.6 million deceases. The most prevalent type of cancer is breast cancer; it affects women all over the world. In 2020, the International Agency for Research on Cancer estimated that breast cancer responsible for 24% of all cases of cancer in the world. It is considered the second leading reason of death in females. Therefore, early discovery and diagnosis the cancer of the breast are critical (Tayem, 2019).

There are many factors such as demographic, social and biomedical hazard act as breast cancer development; generally, these factors can be grouped into hazard factors that can be altered (modifiable) and hazard factors that cannot be altered (nonmodifiable). The hazard factors that cannot be altered are known to be genetic factors, age, gender, age of the females, early age at menstruation, and late menopause, meanwhile modifiable risk factors such as risks associated with one's way of life

are physical inactivity, consumption of alcoholic beverages, using tobacco and taking various hormones such as estrogen. A high eating of red meat was identified as a risk factor, while high consumption of fruits and some dietary patterns such as the Mediterranean food had a protective effect, late first childbirth, childlessness, short-term breastfeeding, use of birth control pills, obesity, excessive fat consumption, hormonal alternatives all of them are modified risk factors (Jerônimo et al., 2017; Vishwakarma et al., 2019). In this study, we examine the risk factors to detect the cause breast lesions among women.

**Methods:**

A descriptive study design carried out at Azadi Hospital and Private Mammographic Clinics in Kirkuk City. The studied sample was (100) women getting mammogram screening selected by purposive (non-probability) sample. The study initiated from (September 26<sup>th</sup>, 2020 – June 27<sup>th</sup>, 2021).

The study instrument composed of 2 parts. Part I: Socio-Demographic data which included woman's age, social status, level of education, occupation, residency, and socio-economic status. Part II: Un healthy behaviors which included: smoking, alcohol abuse, playing sports, and dietary practices.

The instrument validity done by panel of experts (content validity), and internal consistency reliability determined by (Cronbach's alpha coefficient). The reliability for the instrument parts (0.74) to (0.79).

The data collected by self-administrated method. The data analyzed by using of SPSS.

Results:

Table (1): Distribution of Women According to their Socio-demographic Characteristics.

No	Characteristics	F	%
1	<b>Age (M±SD= 44±9)</b>		
	≤ 19 year	1	1
	20 – 29 year	4	4
	30 – 39 year	21	21
	40 – 49 year	51	51
	50 – 59 year	16	16
	60 ≤ year	7	7
	<b>Total</b>	<b>100</b>	<b>100</b>
2	<b>Marital status</b>		
	Married	77	77
	Divorced	6	6
	Widowed	14	14
	Unmarried	3	3
	<b>Total</b>	<b>100</b>	<b>100</b>
3	<b>Level of education</b>		
	Doesn't read & write	11	11
	Read & write	18	18
	Primary school	27	27
	Secondary school	21	21
	Institute	7	7
	College	16	16
	<b>Total</b>	<b>100</b>	<b>100</b>
4	<b>Occupation</b>		
	Housewife	73	73
	Employee	20	20
	Retired	6	6
	Student	1	1
	<b>Total</b>	<b>100</b>	<b>100</b>
5	<b>Residency</b>		
	Rural	39	39
	Urban	55	55
	Sub-urban	6	6
	<b>Total</b>	<b>100</b>	<b>100</b>
6	<b>Socioeconomic status</b>		
	Sufficient	16	16
	Barely sufficient	62	62
	Insufficient	22	22
	<b>Total</b>	<b>100</b>	<b>100</b>

M= Mean, F.= Frequency, % = Percentage, Sd = Standard deviation. , No. = Number.

This table shows that 51% of women whose visit the mammogram clinics belong 40-49 years old with average age 44±9 years. The marital status reveals that more of women are

married (77%) and only 3% are still unmarried. Regarding the level of education, the highest percentage shows that women are graduated from primary school (27%). The occupational status shows that 73% of women are housewives and 20% of them are governmental employee.

More than half of women are resident in urban area (55%) and 39% are resident in rural area. The socioeconomic status reveals that 62% of

women are perceived barely sufficient socioeconomic status.

Table (2): Distribution of Women According to their to unhealthy behaviors.

Variables	f	%	$\chi^2$	df	p-value (Sig)
<b>Smoking</b>					
Yes	9	9	0.543	1	0.461 (N.S)
No	91	91			
Total	100	100			
<b>Ex-smoker</b>					
Yes	21	21	1.507	1	0.220 (N.S)
No	79	79			
Total	100	100			
<b>Someone smoked around</b>					
Yes	55	55	0.364	1	0.546 (N.S)
No	45	45			
Total	100	100			
<b>Alcohol consumption</b>					
Yes	0	0	-	-	-
No	100	100			
Total	100	100			
<b>Playing sports</b>					
No	94	94	6.383	2	0.041 (S)
Running	3	3			
Daily walking	3	3			
Total	100	100			
<b>Eat a lot of sweet</b>					
Yes	38	38	0.170	1	0.680 (N.S)
No	62	62			
Total	100	100			
<b>Eat a lot of fat and carbohydrate</b>					
Yes	84	84	4.762	1	0.029 (S)
No	16	16			
Total	100	100			
<b>Eat red meat a lot</b>					
Yes	34	34	0.178	1	0.673 (N.S)
No	66	66			
Total	100	100			
<b>Eat white meat a lot</b>					
Yes	56	56	0,469	1	0.420
NO	44	44			
Total	100	100			
<b>Eat fresh fruit and vegetables</b>					
Yes	71	71	0.049	1	0.826 (N.S)
No	29	29			
Total	100	100			

f: Frequency, %: Percentage,  $\chi^2$ = Chi-square, df: degree of freedom, p-Value: probability value, Sig: Significance, N.S: Not significant, S: Significant.

This table displays the variable related to unhealthy behavior that indicates only 9% of women are smoking. 21% of them are reporting that they were ex-smokers and 55% of them having someone smoked around. All of women are reporting that they not consume alcohol (100%). Only 6% of women are playing sport as running and daily walk (3% and 3%) that show significant difference at p-value= 0.041. and the findings shows that 38% of them are eating a lot of sweet which show no significant difference. More of women are show eating a lot of fat and carbohydrate (84%) that show significant difference at p-value = 0.029. Only 34% of women are eating red meat a lot, which shows no significant difference. Eating white meat a lot reported among 56% of women that reveals no significant differences. Eating fresh fruit and vegetable are reported among 71% of women but shows no significant difference.

#### Discussion:

Results of the present study have indicated that the highest percentage (51%) of women at age between 40-49 year as shown in table (1). These results are consistent with the study that was carried out in Saudi by Abdel-Aziz et al., (2016) who reported the majority of participants were there age between 40-49 year.

As a result of the age factor, probably because these ages are more vulnerable for breast cancer and also are the most suitable for mammographic examination.

Also the result appear marital status reveals that more of women were married (77%) as shown in table (1), this result consistent with the study conducted in Kuantan, Pahang by Moey et al., (2020) who reported the majority (79.6%) of participants were married.

This conclusion may be due to marriage in Iraq is pre dominant. With regard to the level of education, the highest percentage shows that women are graduated from primary school (27%) as shown in table (1). These study agree

with the study conducted in Iran by Farhadifar et al., (2015) reported that the highest percent 27.2% of women are graduated from primary school.

The researcher found that the highest percentage of women graduated from primary school, probably due to economic status. Concerning the occupational status, table (1) reveals that 73% of women are housewives, which shows no significant difference. This result agrees with the study held in Iraq by Khairi and Mukkee, (2015) in Hilla City who reported that most of the women were housewives.

This finding concerning the occupational status, probably due to responsibility for managing the family and taking care of children is one of the primary tasks for women in Iraq, and they have someone to support on them and most women do not need a job.

With regard to the residence, the highest percentage (55%) of the study sample their residences are urban area as shown in table (1). This result similar the study result that carried out in Sulaymaniyah, Iraq by Kareem and Mohammed, (2020) who stated that highest percentage (51%) of study sample residence are urban area.

According to the socioeconomic status the result of present study reveals that 62% of women are perceived barely sufficient socioeconomic status as shown in table (1). This finding comes along with the study conducted in Nigeria by Olarewaju et al., (2019) which mentioned that majority of women are perceived barely sufficient socioeconomic status and there was no significant difference at p-value=0.084.

Explanations of these result, probably due to the conditions that the whole world is going through, and Iraq in particular, the monthly imports of families remain barely sufficient in social and economic terms.

Table (2) indicates that the majority of (91%) women are not smoking, and there was no significant difference at p-value =0.461, and (79%) of them reported that they were non ex-

smokers and there was no significant difference at  $p$ -value = 0.220 . This result consistent with the study conducted by Goldvaser et al., (2017) who reported that the majority of women were nonsmoker, and there was no significant difference at  $p$ -value= 0.70 , also reported that the majority of them were not ex-smokers and there was no significant difference at  $p$ -value= 0.447.

According to Alcohol consumption in the present study it is not computed because all of women not drink alcohol as shown in table (2). This finding agree with those of Takkar et al.,(2017 ) who found there were no alcohol consumption. This difference due to religion, culture, and society. Smoking and drinking alcohol is very low in Iraq.

Regarding to sport, the result of the present study found that highest proportion 94% of women have no regular exercise that show significant difference at  $p$ -value= 0.041.This result agree with the study result that carried out in Sulaymaniyah by Kareem and Mohammed, (2020) reported that majority not have regular exercise and shows no significant difference at  $p$ = 0.61.

The result of the sport statistics may be due to Iraqi women do not have enough time to do exercise because of most time busy with home jobs.

The finding of the table (2) showed that 38% of women are eating a lot of sweet which show no significant difference. More of women are show eating a lot of fat and carbohydrate (84%) that show significant difference at  $p$ -value = 0.029 ,this result agree by Tapan et al., (2019) about evaluation of the eating habits of breast cancer patients and reported that the highest proportion eat sweet , fat, and carbohydrate and there were a significant difference at  $p$ =0.05.

Regarding the red meat consumption the result found about (66%) not eat met, which show no significant difference at  $p$ -value =0.673. This result inconsistent with the study done by Kim et al., (2017) found that 56.9% of women high consumption of red meat. Toklu and Nogay, (2018) found that 56.9% of women eat one serving of red meat per week.

Concerning to eat white meat the result show the highest percentage (56%) eat white meat that reveals no significant differences ,this result similar with the study conducted by Mourouti et al., (2015) who reported that( 65.9) of patient eat white meat three times per week at  $p$ -value=0.41.

With regarded to eat fresh fruit and vegetable are reported among 71% of women but shows no significant difference. Kooshki et al., (2016) found that 60% of women had an intake of fruits less than two servings daily, and 83.2% women had an eating of vegetables of less than three servings daily, and fruits and vegetables was not a significant difference( $p>0.05$ ).

The researcher attributed this difference may be related to the food habits in Iraq differ from others countries. People in Iraq are interested in eating fatty foods more than others.

#### **Conclusion:**

Age as a non-modifiable risk factor, with some modifiable unhealthy behaviors risk factors such as; low or no physical activities, consuming large amounts of fat and carbohydrates appeared among studied women. All of these factor enhance malignancy development.

#### **Recommendation:**

Maintain a healthy weight by following a nutritious rich in foods like fruits, vegetables, low in saturated fats and low in energy (calories), fewer sweets, regularly eating red meat, eating white meat and physically active.

#### **References**

- Abdel-Aziz, S. B., Amin, T. T., Al-Gadeeb, M. B., Alhassar, A. I., Al- Ramadan, A., Al-Helal, M., ... & Alkhalaf, E. H. (2017). Perceived barriers to breast cancer screening among Saudi women at primary care setting. *Asian Pacific journal of cancer*

prevention: *APJCP*, 18(9),2409.doi: 10.22034/APJCP.2017.18.9.2409.

Farhadifar, F., Taymoori, P., Bahrami, M., & Zarea, S. (2015). The relationship of social support concept and repeat mammography among Iranian women. *BMC women's health*, 15(1), 1-8.

Goldvaser, H., Gal, O., Rizel, S., Hendler, D., Neiman, V., Shochat, T., ... & Yerushalmi, R. (2017). The association between smoking and breast cancer characteristics and outcome. *BMC cancer*, 17(1), 1-8.

Heda, K., Beniwal, K., Sharma, K., & Kasliwal, N. (2017). Clinicopathological profile of breast lesions at tertiary care centre: A study of 602 cases. *Indian Journal of Obstetrics and Gynecology Research*, 4(2),127-131. DOI: 10.18231/2394-2754.2017.0029

Jerônimo, A., F., Freitas, Â., G., & Weller, M. (2017). Risk factors of breast cancer and knowledge about the disease: an integrative revision of Latin American studies. *Ciência & Saúde Coletiva*, 22(1):135-149.

Kareem, S. Y., & Mohammed, A. K. (2020). The impact of Breastfeeding on Breast Cancer among women in Sulaimani city. *Journal of University of Raparin*, 7(3), 437-452.  
<http://journal.uor.edu.krd/index.php/JUR/article/view/280>

Khairi, S. H., & Mukeef, S. A. (2015). Assessment of Instructional Labor Support Behaviors among Laboring Women at Teaching Hospitals in Hilla City. *Iraqi National Journal of Nursing Specialties*, 28(1).

Kim, J. H., Lee, J., Jung, S. Y., & Kim, J. (2017). Dietary factors and female breast cancer risk: a prospective cohort study. *Nutrients*, 9(12), 1331.

Klassen, C. L., Hines, S. L., & Ghosh, K. (2019). Common benign breast concerns for the primary care physician. *Cleve Clin J Med*, 86(1), 57-65.

Kooshki, A., Moghaddam, M. Y., & Akbarzadeh, R. (2016). Study of fruit and vegetable intake in breast cancer patients in the city of Sabzevar. *Electron Physician*, 8(9), 3011-3014. doi: 10.19082/3011.

Moey, S. F., Mutalib, A. M. A., Mohamed, N. C., & Saidin, N. (2020). The relationship of socio-demographic characteristics and knowledge of breast cancer on stage of behavioral adoption of breast self-examination. *AIMS public health*, 7(3), 620. doi: 10.3934/publichealth.2020049

Mourouti, N., Kontogianni, M. D., Papavagelis, C., Plytzanopoulou, P., Vassilakou, T., ... & Panagiotakos, D. B. (2015). Meat consumption and breast cancer: a case-control study in women. *Meat science*, 100, 195-201.  
<https://doi.org/10.1016/j.meatsci.2014.10.019>

Nwadike, U. ,I., Eze, C., U., Agwuna, K., and Mouka, C. (2017). Mammographic classification of breast lesions amongst women in Enugu, South East Nigeria. *African Health Sciences*, 17(4), 1044–1050.<https://doi.org/10.4314/ahs.v17i4.12>  
Olarewaju, S. O., Oyekunle, E. O., & Bamiro, A. O. (2019). Effect of sociodemographic variables on patient and diagnostic delay of breast cancer at the Foremost Health Care Institution in Nigeria. *Journal of global oncology*, 5, 1-8.

Stachs, A., Stubert, J., Reimer, T., & Hartmann, S. (2019). Benign Breast Disease in Women. *Deutsches Arzteblatt international*, 116(33-34), 565–574.  
Nwadike, U. ,I., Eze, C., U., Agwuna, K., & Mouka, C. (2017). Mammographic classification of breast lesions amongst women in Enugu, South East Nigeria. *African Health Sciences*, 17(4), 1044–1050.

Takkar, N., Kochhar, S., Garg, P., Pandey, A. K., Dalal, U. R., & Handa, U. (2017). Screening methods (clinical breast examination and mammography) to detect breast cancer in women aged 40–49 years.

*Journal of mid-life health*, 8(1).  
doi: 10.4103/jmh.JMH\_26\_16.

Tapan, T. K., Iyigun, Z. E., Ilgun, S., & Ozmen, V. (2020). Evaluation of the eating habits of breast cancer patients. *Pak J Med Sci.* 36(7), 1562–1566. Tapan, T. K., Iyigun, Z. E., Ilgun, S., & Ozmen, V. (2020). Evaluation of the eating habits of breast cancer patients. *Pak J Med Sci.* 36(7), 1562–1566.

Tayyem, R. F., Mahmoud, R. I., Shareef, M. H., & Marei, L. S. (2019). Nutrient intake patterns and breast cancer risk among Jordanian women: a case-control study. *Epidemiology and Health*, 41, e2019010. doi: [10.4178/epih.e2019010](https://doi.org/10.4178/epih.e2019010)

Toklu, H., & Nogay, N. H. (2018). Effects of Dietary Habits and Sedentary Lifestyle on Breast Cancer among Women Attending the Oncology Day Treatment Center at a State University in Turkey. *Niger J Clin Pract.* 21,1576-84.  
<https://www.ajol.info/index.php/njcp/article/view/182880>.

Vishwakarma, G., Ndetan, H., Das, D., N., Gupta, G., Suryavanshi, M., Mehta, A., & Singh, K., P. (2019). Reproductive factors and breast cancer risk: A meta-analysis of case–control studies in Indian women. *South Asian Journal of Cancer*, 8(2), 80. doi: 10.4103/sajc.sajc\_317\_18.  
doi: 10.4103/sajc.sajc\_317\_18