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EVALUATION OF RISK FACTORS IN BREAST CANCER AMONG IRAQI FEMALE PATIENTS

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ABSTRACT

Background: Breast cancer in women is a major public health problem throughout the world, it accounts for one third of the registered female cancers in Iraq, little is known about the characteristics of females having the disease, and therefore this study was performed. **Materials and Methods:** Registered data of breast cancer patients was collected from Al-Yarmouk teaching hospital in Baghdad. Analysis of data was done by using the statistical package for social science (SPSS version 23). **Results:** The study included a total of 200 female breast cancer cases that were registered in Al-Yarmouk teaching hospital from 2013-to the first half of 2017. Their age ranged from 15-80 years old, 86% of the total sample was non-workers, 93.5% were married, and mean age of menarche was 12. 84.5% positive obstetrical history and a positive history of lactation were demonstrated in 79%-36.5% used a contraceptive method at least once in their lifetime and 22.5% had a positive family history. **Conclusions**: The disease was found to be highest in the age group (45-49) years. The protective effect of parity was not clearly elicited in this study since 84.5% of the total sample gave birth to one or more children.

KEYWORDS: Breast Cancer--risk factors-descriptive study.

INTRODUCTION

Breast cancer in women is a major public health problem throughout the world; it is the most common cancer among women both in developed and developing countries. It is also the principal cause of death from cancer among women. About 55% of the global burden is currently experienced in developed countries; the incidence is rising in most countries and is projected to rise further over the next 20 years despite current efforts to prevent the disease.[1]

The increased incidence is not surprising since there has been, in most countries, an increase in numbers of women with major breast cancer risk factors, including lower age of menarche, late age of first pregnancy, fewer pregnancies, shorter or no periods of breastfeeding, and a later menopause.[2] Breast cancer is the most frequent cancer among women, according to the latest Iraqi Cancer Registry, it accounts for approximately one third of the registered female cancers in Iraq, where it is the leading cause of death with a mortality rate of 23%. It has been the highest-ranked malignancy among the Iraqi population in general since 1986, being married has been shown to be positively associated with survival in patients with multiple different types of malignancy.

Parity is associated with lower lifetime breast cancer risk, with more recent studies have clarified pregnancy's dual effect on breast cancer risk, documenting that it confers a short-term increase in risk followed by a long-term decrease.

AIMS OF THE STUDY

Evaluation of Risk factors in Breast Cancer among Iraqi female patients.

MATERIAL AND METHODS

A cross sectional/ study conducted on patients records of 200 female breast cancer cases registered in early Detection of Breast Cancer unit throughout the years from January 2013 to July 2017. Information collected for each accord included (age, marital status, obstetrical history, parity, occupation, menstrual history, hormonal use, breastfeeding and family history).

The files that were inappropriately filled or those lacking important information or those who were unclearly written were excluded.

Analysis of the data was done by using frequencies and percentages, graphical and tabular presentation were done by the statistical package for social science (SPSS version 23).

The permission has been taken from the head doctors of Early Detection of Breast Cancer department in order to take the information from patients' files in their archives. The privacy of the patients' information was fully kept and the used information does not contain the patients' names.

RESULTS

The study included a total of 200 cases of female breast cancer patients that were registered in Al-Yarmouk teaching hospital in Baghdad 44, 63, 47, 36, 10 are the no. of cases registered of the year's 2013,2014,2015,2016 and 2017 respectively. The patients' age ranged from 15 - 80 years old and the most frequent age group was between 45-49 years old (19.5%). (Figure.1) and the mean age of patients were 50.4 with standard deviation of 11.

(86%) of cases were non-workers and the majority of the sample (93.5%) were married women.

The mean age of menarche of the total sample were 12years with a range of 10- 15 and (96%) of the total sample have a regular menstrual history.

(84.5%) of the patients have children and a positive history of lactation was demonstrated in (79%) of breast cancer patients.

(36.5%) of the patient used a contraceptive method at least once in their life. On the other hand, (63.5%) didn't use any.

(77.5%) of the patient had a negative family history of breast cancer. (Table 1).

Table 1: The clinical and demographic characteristics of breast cancer patients.

Occupation	**Frequency**	**%**
Workers	28	14.0
Non-workers	172	86.0
Total	200	100
Marital Status	**Frequency**	**%**
Married	187	93.5
Unmarried	13	6.5
Total	200	100.0
Regularity of period	**Frequency**	**%**
Regular	192	96.0
Irregular	8	4
Total	200	100.0
Having Children	**Frequency**	**%**
Yes	169	84.5
No	31	15.5
Total	200	100.0
Lactation history	**Frequency**	**%**
Positive	158	79.0
Negative	42	21.0
Total	200	100.0

History of contraception	Frequency	%
Positive	73	36.5
Negative	127	63.5
Total	200	100.0
Family history of breast cancer	**Frequency**	**%**
Positive	45	22.5
Negative	155	77.5
Total	200	100.0

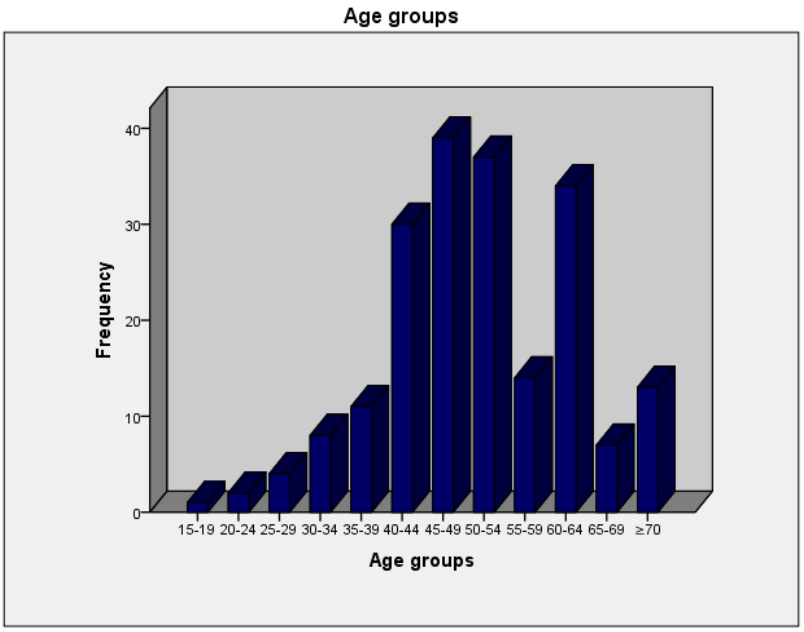

Figure.1: Age groups (years).

(20.5%) got pregnant 1-3 times, (35%) got pregnant 4-6 times, (11.5%) got pregnant 7-9 times, (3%) got pregnant10-12 times and (0.5%) got pregnant 13-15 times. The mean of no. of pregnancies was 4 and the range was 1-15. (There were 141 valid cases from 179 totals). (Figure.2).

(16%) of women didn't give any births, (26.5%) of women gave birth to 1-3 children, (31.5%) of them gave birth to 4-6 children, (9.5%) gave birth to 7-9 children and (2%) gave birth to 10-12 children. The mean of life births was 3 with standard deviation of 2.6 and the range was 0- 12. (There were 171 valid cases from 200 totals). (Figure.3).

(65.5%) of women didn't have any abortion while (13.5%) had abortion only once and (21%) had more than one abortion.

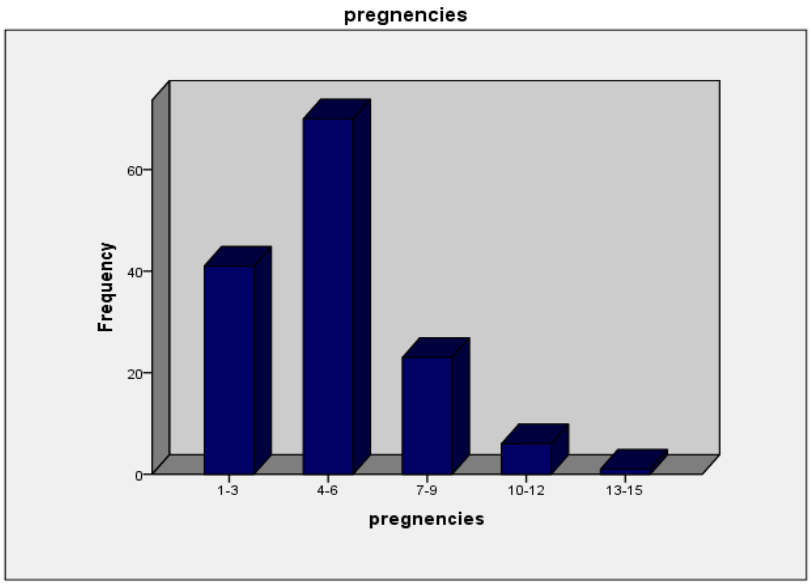

Figure.2: Number of pregnancies.

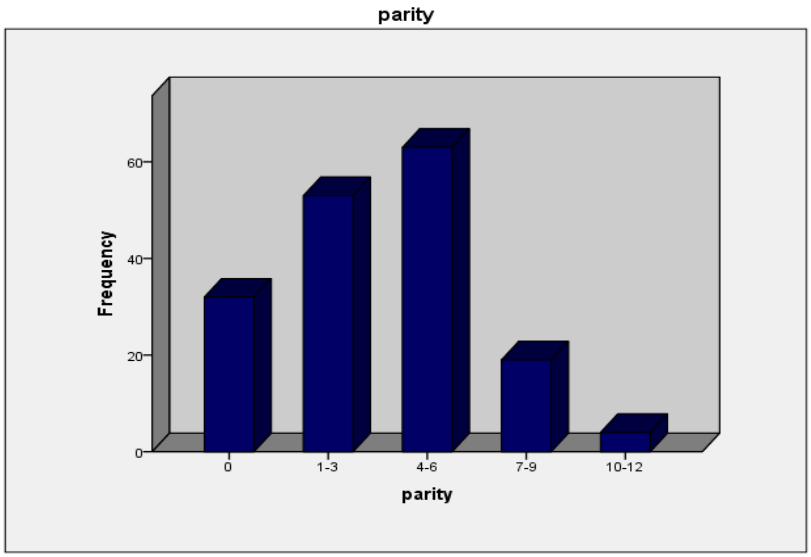

Figure.3: Number of Live Births.

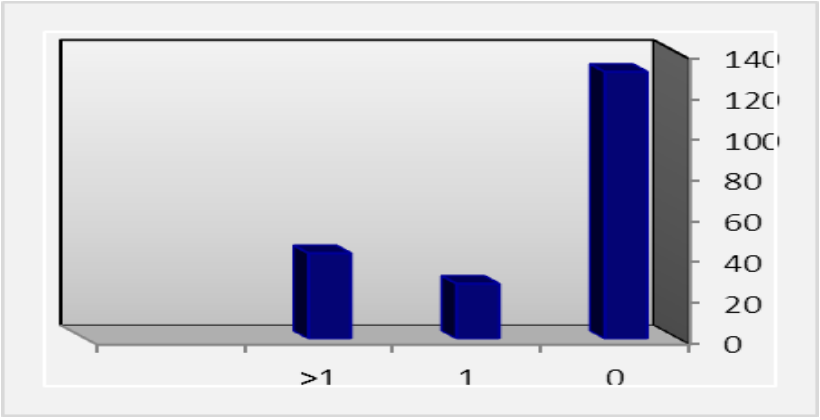

Figure.4: % no. of abortions.

DISCUSSION

Breast cancer is the most frequent cancer among women, according to the latest Iraqi Cancer Registry, it accounts for approximately one third of the registered female cancers in iraq, where it is the leading cause of death with a mortality rate of 23%. It has been the highest-ranked malignancy among the Iraqi population in general since 1986.[3] In 2000, Iraq established national programs for early detection of breast cancer as proposed by the World Health Organization (WHO) in an effort to decrease breast cancer mortality.

In this study the peak age frequency of breast cancer was in the age group 45-49 which matched the peak age frequency of the Iraqi cancer registry in 2009 which also was 45-49.[5] WHO records revealed that approximately half of the cancers in the Eastern Mediterranean Region (EMR) occur before the age of 55 and that the age standardized incidence rate of all cancers in this region is expected to double as risk factor exposure increases. On the other hand, the peak age of frequency of breast cancer in western countries is usually observed in the sixth decade and over.[6]

According to a study conducted in the United States (Swanson, G. Marie et. al), it has been shown consistently that married people have lower cancer mortality rates than do people who are single, widowed, or divorced. Despite this widely reported finding, it would be incorrect to conclude that marriage somehow protects people from developing cancer. In fact, a study of cancer incidence across marital status groups did not find consistently lower rates among the married compared to those who were single, widowed, separated, or divorced.[7] These findings matched the results of this study where married people consisted 93.5% of the total cases.

It was suggested previously that parity is associated with lower lifetime breast cancer risk, with changes in differentiation of breast epithelium proposed as a protective mechanism while null parity has been identified as a risk factor for breast cancer.[4][8] However, in the present study, that effect was not clearly elicited; since 84.5% of the total sample gave birth to one or more children. Also previous studies in Iraq showed that 83% of breast cancer patients gave birth to two or more children.[9] Other native studies in East Asia showed that 96.9% of the patients gave birth to one or more children.[10]

In more recent studies it was clarified that pregnancy may have a dual effect on breast cancer risk; the increased hormone levels that occur in each full term pregnancy may promote the

growth of cells that have already undergone malignant transformation. With the passage of time, the increased risk would dissipate and a reduced risk would be observed.[11]

Studies suggest that any lactation is associated with a slight reduction in the risk of breast cancer among younger and older parous women.[12] In a study by the Collaborative Group on Hormonal Factors in Breast Cancer, researchers found that for every 12 months a woman breastfed, her risk of breast cancer decreased by 4.3%. The study compared mothers who breastfed to those who didn't. It also found the 12-month time period could be with either one child or as the total for several children.[13] But, in this present study, a positive history of lactation was demonstrated in 79% of breast cancer patients. These results were in accordance with another study in USA which stated that breast cancer risk was very weakly associated with long duration of lactation among premenopausal women.[14]

A woman's risk of developing breast cancer depends on several factors, some of which are related to her natural hormones. Contraceptive methods could work by manipulating these hormones through inhibiting the pituitary gland and thus follicular stimulating hormone and luteinizing hormone.[9] Some findings have shown that using these methods does not have a significant effect in increasing the risk of breast cancer, while others have confirmed the carcinogenic effect of these products we need to know the exact method. In the present thesis, history of using contraceptive methods was displayed in only 36.5% of breast cancer patients; however, the effect of contraceptive methods was not clearly showed in this study. This result was similar to the result of another study in Northern Italian Population.[15]

A positive family history is a known risk factor for most malignancies. Genetic factors predisposing to hereditary cancer are believed to be responsible for 5.0–7.0% of all cases of breast cancer. Thus, a comprehensive family history is an important tool in cancer risk assessment and prevention management. In a study of breast cancer and family history in Rockville, USA. Out of 622 females 403 (64%) had a positive family history, in this study it was found that (22.5%) had a positive family history.[16][17]

History of recurrent abortion was observed in 34.5% of the breast cancer patients in this study. The abortion–breast cancer hypothesis posits that having an induced or spontaneous abortion can increase the risk of getting breast cancer. In early pregnancy, hormone levels increase, leading to breast growth. If this process is interrupted by an abortion then more immature cells could be left behind, resulting in a greater potential risk of breast cancer over

time.[18] In 1996, Brind et al. published a meta-analysis of 23 studies which reported a positive association existed between induced abortion and breast cancer risk.[19] However, A 2015 systematic review and meta-analysis of prospective studies found insufficient evidence to support an association between induced or spontaneous abortion and an increased risk of breast cancer.[20]

Regarding the age at menarche, perhaps the most compelling evidence regarding the influence of endogenous hormones on breast cancer risk is found in the leveling off in the age-specific incidence curve of breast cancer after menopause when ovarian production of steroid hormones ceases. The ages at menarche and menopause, milestone events that determine the period over which women are exposed to endogenous ovarian hormones, have repeatedly been shown to be related to the risk of breast cancer. Estimates based on a pooled analysis of the results from 21 studies show that for each additional year, age at menarche is postponed; pre and postmenopausal breast cancer risk decreases 9% and 4%, respectively. In a study that was conducted in USA based on a sample of 1328 cases of breast cancer, women experienced menarche on average around age of 13. In a similar study in New Delhi, India which included 320 cases of breast cancer it was found that the mean age of menarche for these women was 13 with a standard deviation of 1.3.[4][21][22] In this study it was found that the mean age of menarche of the total sample was 12 with a range of 10 to 15. Also, it was found that 96% of patients had a regular menstrual history.

While more research is needed to understand how occupation and breast cancer risk are linked, we do know that work environment can affect the risk of breast cancer. For example, certain occupations expose workers to high levels of toxic chemicals or radiation.[25] But, in this study, only 14% of breast cancer patients are workers. However, we don't have a sufficient amount of information about the work types nor the work environments that enable us to give precise result.

CONCLUSION

Married women percentage was the highest among patients with a positive obstetrical and lactation history. The protective effect of parity was not clearly elicited in this study since 84.5% of the total sample gave birth to one or more children.

REFERENCES

1. Ferlay J., Héry C., Autier P., Sankaranarayanan R. Breast Cancer Epidemiology. Springer, New York, NY, 2014; 1: 5.
2. Howel Anthony et al. Risk Determination and Prevention of Breast Cancer. Breast Cancer Research, Manchester UK, 2014; 16: 446.
3. Al-Hashimi MM, Wang XJ., Breast Cancer in lraq Incidence trends from 2000-2009. Asian Pacific Journal of Cancer Prevention, 2014; 15(1): 281-6.
4. Lambe Mats, Lyon France. Breast Cancer Epidemiology-Reproductive Factors. Springer Science and Business Media. 2010.
5. Iraq Cancer Registry, Ministry of Health 2009. (https://moh.gov.iq/upload/upfile/ar/1642009%20cancer%20registery.pdf)
6. Revised global burden of disease (GBD), WHO 2002, 8 estimates. Geneva, World Health Organization, 2003.
7. Swanson, G. Marie, Belle, Steven H., Satariano, Wiliam A. Marital Status and Cancer Incidence: Differences in the Black and White Populations, American Association for Cancer Research, United states, Michigan, 1985; 45: 5883-5889.
8. Key T.J., Verkasalo P.K., Banks E.: Epidemiology of breast cancer. Lancet Oncol, 2001; 2: 133-140.
9. Alwan, Nada. Demographic Profile of Patients Diagnosed with Breast Cancer in Iraq. Annual Book, J Diyala Res Cen of Childhood & Motherhood, 2012.
10. Hui Li, Xuezheng Sun, et al. BMI, reproductive factors, and breast cancer molecular subtypes: A case-control study and meta-analysis, In Journal of Epidemiology, 2017; 27: 4.
11. Palmer, Julie, Wise, Lauren et al. Dual Effect of Parity on Breast Cancer Risk in African-American Women. Journal of the National Cancer Institute, March 19, 2003; 95: 6.
12. Furberg H., B, Newman, P., Moorman, R., Millikan, Lactation and breast cancer risk. Int J Epidemiol, Jun, 1999; 28(3): 396-402.
13. Collaborative Group on Hormonal Factors in Breast Cancer. Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50 302 women with breast cancer and 96 973 women without the disease, The Lancet, 2002; 360: 9328: 187–195.
14. Freud Enheim J., Marshall J., Uena J, et al.: Lactation history and breast cancer risk. A.M.J. Epidemiol, 1997; 146: 932-938.

15. R Talamini, C La Vecchia, S Franceschi, F Colombo, A Decarli, E Grattoni, E Grigoletto, G Tognoni. Reproductive and Hormonal Factors and Breast Cancer in a Northern Italian Population. International Journal of Epidemiology, 1 March, 1985; 14(1): 70–74.
16. PL Mai, L Wideroff, MH Greene, BI Graubard. Prevalence of family history of breast, colorectal, prostate, and lung cancer in a population-based study. Public Health Genomics, 2010; 13(7-8): 495-503.
17. Ribeiro Araújo, Neto da Silva Marcos, et al. Family history in breast cancer in São Luís, Maranhão, Brazil. BMC Res Notes, 2016; 9: 155.
18. Russo J, Russo IH. Susceptibility of the mammary gland to carcinogenesis. II. Pregnancy interruption as a risk factor in tumor incidence. *The American Journal of Pathology*, 1980; 100(2): 497-512.
19. Brind, J; Chinchilli, VM; Severs, WB; Summy-Long, J. "Induced abortion as an independent risk factor for breast cancer: a comprehensive review and meta-analysis." *Journal of Epidemiology and Community Health*, 1996; 50(5): 481–96"
20. Guo, J; Huang, Y; Yang, L; Xie, Z; Song, S; Yin, J; Kuang, L; Qin, W." Association between abortion and breast cancer: an updated systematic review and meta-analysis based on prospective studies." *Cancer Causes & Control: CCC*, 2015; 26(6): 811–9.
21. Bhadoria AS, Kapil U, Sareen N, Singh P. Reproductive factors and breast cancer: A case–control study in tertiary care hospital of North. New Delhi, India, Indian Journal of Cancer, 2013; 50(4): 316-321.
22. Andersen SW, Trentham-Dietz A, Gangnon RE, et al. Breast cancer susceptibility loci in association with age at menarche, age at natural menopause and the reproductive lifespan, *Cancer epidemiology*, 2014.
23. Janet G. Workers and Occupation. Breast Cancer Fund. San Francisco, CA, 2009.