The incidence rate and mortality rate of breast cancer in Wasit Province

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المستخلص

سرطان الثدي هو الورم الأكثر شيوعا بين النساء في جميع أنحاء العالم. ومع ذلك، هناك تباين جغرافي كبير في الإصابة به. دراسة احصائية أجريت في وحدة سرطان الثدي في محافظة واسط في مستشفى الزهراء. لتحديد العوامل الاجتماعية والديموغرافية، ومعدل الإصابة والوفيات في المرضى الإناث المصابات بسرطان الثدي في محافظة واسط. وكانت أعلى نسبة لمريضات سرطان الثدي في مدينة الكوت (69.04٪) في حين كانت أدنى نسبة لمريضات سرطان الثدي في مدينة الدجيلي ومدينة شيخ سعد (2.38٪). وفقا للفئة العمرية لمريضات سرطان الثدي، كانت أعلى نسبة للاصابة (47.61٪) في الفئة العمرية 41-50 في حين كانت أدنى نسبة للاصابة 2.38٪ في الفئة العمرية 21-30 و 81-90 على التوالي. وكانت أعلى نسبة لسرطان الثدي في المدنية (78.57٪) في حين كانت النسبة في الريف (21.42٪). بصورة عامة كان معدل حدوث الإصابة بسرطان الثدي (15.98٪) و معدل الوفيات (40.47٪). متوسط الفئات العمرية هو 51.42، الانحراف المعياري هو 12.41، الحد الأدنى للفئة العمرية المصابة 28 سنة والحد الاعلى للفئة العمرية المصابة 80 سنة. أظهر التوزيع الطبيعي لمرضى سرطان الثدي ان اعلى نسبة اصابة كانت بين 40-60 عاما، وليس هناك اصابات بسرطان الثدي بعمرأقل من 20 سنة.استنتجت الدراسة أن غالبية مرضى سرطان الثدي في مدينة الكوت. توصي الدراسة على ضرورة اجراء الفحص الطبي الدوري للكشف المبكر عن سرطان الثدي.

Abstract

Breast cancer is the most common tumor among women worldwide. However, there is large geographical variation in its incidence. A retrospective case-control study was conducted at breast cancer unit of Wasit Governorate in Al-Zahraa Teaching Hospital, to detect the socio-demographic characteristics, incidence rate and mortality rate of females' patients with malignant breast cancer. The highest percentage of breast cancer patients was in Kut City (69.04%), while the lowest percentage of breast cancer patients was in Dijaly City and Shaikh-Saad City (2.38%). According to age group of breast cancer patients, the highest percentage was (47.61%) in age group 41-50 while the lowest percentage of breast cancer patients was (2.38%) in age group 21-30 and 81-90 respectively. The highest percentage of breast cancer was in urban area (78.57%), while in rural area the percentage was (21.42%) of Wasit population. In general the incidence rate was (15.98%) and mortality rate was (40.47%). The mean of age groups is

51.42, Standard Deviation is 12.41, Minimum age group 28 years and Maximum age group 80 years. The normal distribution of breast cancer patients' age showed the highest frequencies of breast cancer were detected between 40-60 age years; there is no infection with breast cancer under 20 years old. The mean of age groups is 51.42, Standard Deviation is 12.41, Minimum age group 28 years and Maximum age group 80 years. The conclusion is the majority of breast cancer patients were in Kut city. The recommendation is the need to hold periodic medical examination for early detection of breast cancer.

Introduction

Breast cancer is a malignant proliferation of epithelial cells lining the ducts or lobules of the breast. In the year 2010, about 180,000 cases of invasive breast cancer and 40,000 deaths will occur in the United States. Epithelial malignancies of the breast are the most common cause of cancer in women (excluding skin cancer), accounting for about one-third of all cancer in women (1, 2).

Multiple risk factors for the development of breast cancer have been identified; the principal risk factor is gender, breast cancer is largely a disease of women, although it does occur in men. A second critical risk factor is age, about 75% of breast cancer cases in the United States are diagnosed in women older than 50 years of age. Family history is a third critical risk factor, about 20% of breast cancer occurs in women with a family history of breast cancer; increased risk is associated with diagnosis of breast cancer in first-degree relatives younger than 50 years, 5 to 8% of breast cancer cases occur in high-risk families. Several familial breast cancer syndromes with associated molecular abnormalities have been identified, chief among them is the breast ovarian cancer syndrome, which is linked to germline mutations in the breast cancer susceptibility genes, *BRCA1* and *BRCA2*. Reproductive risk factors include early menarche, late menopause, null parity, and late first pregnancy. Among the factors that appear to enhance breast cancer risk are ionizing radiations during adolescence, prolonged use of hormone replacement therapy, ongoing use of oral contraceptives, and alcohol consumption (3, 4).

Mammograms and clinical breast examinations are commonly used techniques to screen for breast cancer. Standard treatment options for breast cancer include surgery, radiation therapy, chemotherapy, hormone therapy and targeted therapy (5).

Breast cancer is the most commonly diagnosed cancer among women, second leading cause of cancer death among women about 5% invasive breast cancer cases occur among women aged <40 years. Breast cancer, in young women is most often associated with family history and/or genetic mutations diagnostic work-up more difficult, because there is no good tool for young women due to breast density fibrocystic changes difficult to distinguish from cancer. Younger women often present with more aggressive disease (6, 7).

About 75% of women with breast cancer in developing countries are diagnosed in clinical stages III and IV, whereas approximately 70% of newly diagnosed women with breast cancer in North America are in stages 0 and 1 because breast cancer is often diagnosed in late stages in women in lead maternity cares, mortality rates are often much higher compared with rates in developed countries (8, 9).

When detection occurs before any spread, the five-year survival rate is 97%. After spread to the local lymph nodes, it is 76%. After metastasis to other organs, the five-year survival rate is 20% (10).

Aims of the study

The aims of study are to detect the socio-demographic characteristics, incidence rate and mortality rate of female patients with malignant breast cancer in Wasit Governorate.

Materials and methods

Study Design

This is a retrospective case-control study was conducted at breast cancer unit of Wasit Governorate in Al-Zahraa Hospital.

Time of the study

Data collection lasted from first of March 2012 till first of July 2012. The time sequence of data collection continued for a period of 4 months. The cases of breast cancer were diagnosed in 2011 year in all Wasit Governorate cities.

Place of the Study

The scene of the study was in breast cancer unit of Wasit Governorate in Al-Zahraa Hospital.

Sampling Design

The sample of the present study included 42 involved females with malignant breast cancer in Wasit Governorate.

Approvals and permissions

Arrangements were carried out to get approvals from the Directorate of Health of Wasit Governorate for Al-Zahraa Hospital.

Data Collection

The data collection was made by:

1- The clinical registers of patients with malignant breast cancer in breast cancer unit of Al-Zahraa Hospital for all patients in Wasit Governorate.

2- The clinical registers of patients with malignant breast cancer in statistical unit of Al-Zahraa Hospital for all patients in Wasit Governorate.

Data Analysis

Data feeding followed by descriptive and analytic statistics that were carried out by utilizing the SPSS version 17 to estimate the number and percentage of the studied parameters, mean, standard deviation of the age groups, incidence and mortality rates (11).

Results

The present study included 42 involvement females with malignant breast cancer in 6 cities of Wasit Governorate. The highest percentage of breast cancer patients was in Kut City 69.04% while the lowest percentage of breast cancer patients was in Dijaly City and Shaikh-saad City 2.38% (Table 1).

Table (1): The numbers and percentages of breast cancer patients in Wasit Governorate (n= 42).

Name of city	Number of breast cancer patients	Percentage
Kut City	29	69.04%
Numania City	5	11.9%
Hay City	4	9.52%
Zubaidia City	2	4.76%
Dijaly City	1	2.38%
Shaikh-saad City	1	2.38%
Total	42	100%

According to age group of breast cancer patients, the highest percentage was 47.61% in age group 41-50 while the lowest percentage of breast cancer patients was 2.38% in age group 21-30 and 81-90 respectively (Table 2).

Table (2): The numbers and percentages of breast cancer patients according to age group (n= 42).

Age Group	Number of breast cancer patients	Percentage
21-30	1	2.38%
31-40	4	9.52%
41-50	20	47.61%
51-60	8	19.04%
61-70	5	11.95%
71-80	3	7.14%
81-90	1	2.38%
Total	42	100%

According to marital status of breast cancer patients, the highest percentage was in married 80.95%, while the percentage of non married was 19.04% (Figure 1).

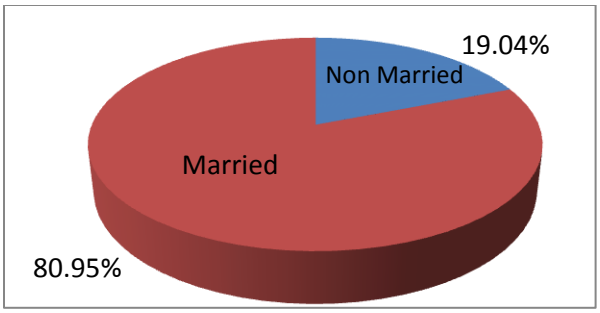

Figure (1): The marital status of breast cancer patients in Wasit Governorate (n= 42).

The mean of age groups is 51.42, Standard Deviation is 12.41, Minimum age group 28 years and Maximum age group 80 years (Table 3).

Table (3): The descriptive statistics of age groups (n= 42).

Age Groups	Mean	Standard Deviation	Minimum	Maximum
	51.42	12.41	28	80

The normal distribution of breast cancer patients age showed the highest frequencies of breast cancer were detected between 40-60 age years, there is no affection with breast cancer under 20 years old (Figure 2).

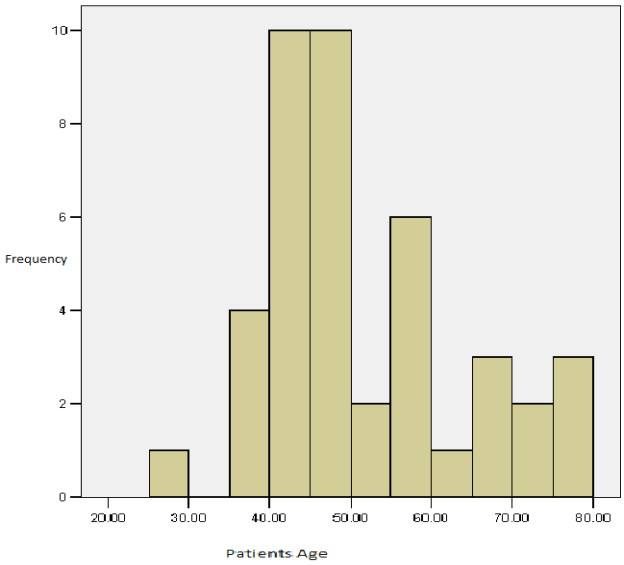

Figure (2): The frequency of patients with breast cancer according to age (n= 42).

The highest percentage of breast cancer was in urban area 78.57% while in rural area the percentage was 21.42% (Figure 3).

The incidence rate of breast cancer in Wasit Governorate for 2011 year is:

$$42 \div 262784 \times 100000 = 15.98\%.$$

The mortality rate of breast cancer in Wasit Governorate for 2011 year is:

$$17 \div 42 \times 100 = 40.47\%.$$

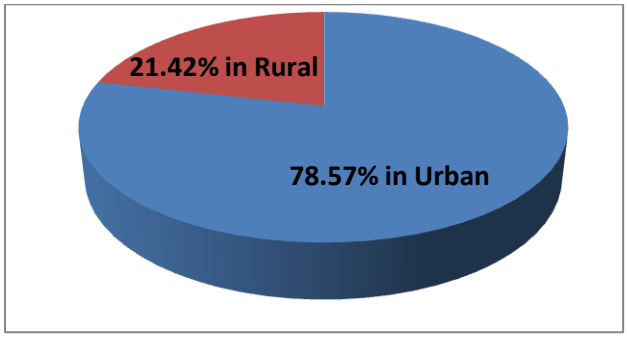

Figure (3): The distribution of patients with breast cancer according to residence (n= 42).

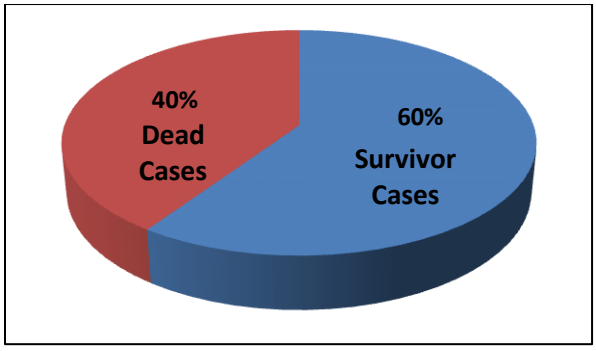

Figure (4): The distribution of patients with breast cancer according to surviving (n= 42).

The highest cases of breast cancer were survivor 60%, while dead cases were 40% (Figure 4).

Discussion

Breast cancer is a major cause of death of women in both globally and regionally. Studies have shown that most patients with

breast cancer in the region present for the first time at stages two and three, indicating the need for increased community awareness and early detection of the disease (12, 13).

In the present study the highest percentage of breast cancer patients was in Kut city 69.04% while the lowest percentage of breast cancer patients was in Dijaly City and Shaikh-Saad City 2.38% respectively this is may be attributed to the variation in environmental pollution as Kut city exposed to American bombs containing depleted uranium for many times during wars and Kut City is more densely populated area from Dijaly City and Shaikh-Saad. The results of other study shows, there were 40,675 women with breast cancer in Japan in 2001(ranking second among cancer cases by site of cancer), accounting for 16.7% of all cases of cancer. In 2002, the number of American women with breast cancer was 168,632 (ranking first among cancer cases by site of cancer), accounting for 30.4% of all cases of cancer (14).

According to age group of breast cancer patients, the highest percentage was 47.61% in age group 41-50, this is may be attributed to hormonal replacement therapy as estrogen used to regulate the menstrual cycle or certain estrogen products may also be used by women after menopause to prevent osteoporosis. The results of other study in Malaysia showed the highest percentage of breast cancer was 33.6% in age group 40-49 (15).

According to marital status of breast cancer patients, the highest percentage was in married females 80.95%, this is may be attributed to the using of contraceptive drugs and not relies on breastfeeding in child nutrition.

The results also showed the highest percentage of breast cancer was in urban area 78.57%, while in rural area the percentage was 21.42%, this difference may be due to the variation in eating habits, physical activity, age at menarche, reproductive history, hormonal drug use as contraceptive and rely on breastfeeding in child nutrition. The results of the present study showed the incidence rate in Wasit Governorate was 15.98% and the mortality rate was 40.47% other results of study in United States showed the incidence rate of breast cancer in women was 31% and the mortality rate was 15% (16).

Conclusions

The majority of breast cancer patients were in Kut City. The highest percentage of breast cancer patients was in age group 41-50.The highest percentage of breast cancer patients was in married females. The highest percentage of breast cancer was in urban area. The highest cases of breast cancer were survivor.

Recommendations

The need to hold periodic medical examination for early detection of breast cancer. Avoid drug abuse of hormonal treatments, unless consulting a specialist doctor and stay away from the indiscriminate use. The importance of breastfeeding as preventive measure against breast cancer.

References

1-Longo Fauci, Kasper Hauser and Jameson Loscalzo. (2012). Harrisons

principles of internal medicine. Breast cancer. 18 editions. United state. 2012; 1805-1825.

2-Sloan FA and Gelband H. (2007). Committee on Cancer Control in Low and Middle Income Countries Board on Global Health. The National Academies Press. 62(6):21-47.

3-Arend Armttage, Clenmmons Drazen, Griggs Landry and Levinson Rustgi.(2012). Goldmans Cecil Medicine. Breast cancer. 24 editions. United state. 2012; 1309-1316.

4-BD Florentine, CJ Cobb, K Rankle, T Greaves and SE Martin. (1997). Core needle biopsy. A useful adjunct to fine-needle aspiration in select patients with palpable breast lesions. Cancer Cytopatholog Journal. 81(7):33-39.

5-Collins LC, Baer HJ, Tamimi RM, Connolly JL, Colditz GA and Schnitt SJ. (2007). Magnitude and laterality of breast cancer risk according to histologic type of atypical hyperplasia. The Nurses' Health Study. 109(2):180-187.

6-Jacqueline Miller. (2011).The Epidemiology of Breast Cancer among Young Women. Public Health Service Medical Director, National Breast and Cervical Cancer Early Detection Program. Program Services Branch. Division of Cancer Prevention and Control Division. Centers for Disease Control and Prevention. 34(3):154-178.

7-Bakken K, Fournier A and Lund E. (2010).Guidelines for early detection of breast cancer. American Cancer Society. 51 (6):43-65.

8-Steven S, Coughlin and Donatus U Ekwueme. (2009). Review Breast cancer as a global health concern. The International Journal of Cancer Epidemiology. 33(4): 315–318.

9-Kriege M, Beral V, Reeves G, Bull D and Green J. (2004). Efficacy of MRI and Mammography for Breast-Cancer Screening in Women with a Familial or Genetic Predisposition. N Engl J Med. 351(5):427-37.

10-Blamey RW, Wilson ARM and Patnick J. (2002). Mammography and Other Breast Imaging Procedures. American Cancer Society. 87 (3): 6-19.

11-Field AP. (2008). Descriptive statistics. Discovering Statistics Using SPSS. 3rd edition. London. 15-35.

12-Oussama M.N. Khatib. (2006). Guidelines for the early detection and screening of breast cancer. World Health Organization. 67(6) 2-55.

13-Kontos M, Wilson R and Fentiman I. (2014). A prospective study of benign breast disease and the risk of breast cancer. American Cancer Society. 54(8)1-114.

14-Kumiko SAIKA and Tomotaka Sobue. (2009). Epidemiology of Breast Cancer in Japan and the US. JMA Journal. 52(1): 39–44.

15-Cheng Har Yip, Nur Aishah, Mohd Taib and Ibraham Mohamed. (2006). Epidemiology of Breast Cancer in Malaysia. Asian Pacific Journal of Cancer Prevention. 79 (7): 43-88.

16-Benjamin O and Anderson MD. (2002). Breast Cancer Epidemiology and Breast Physiology. CA-A Journal for Clinicians. 45(8) 52-23.