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Original Research

Breast Cancer in Middle Euphrates Region of Iraq: Risk Factors, Presenting Symptoms and Time to Medical Help-Seeking

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Background: Breast cancer is the most frequently occurring tumor and the first cause of death in females. Low level of understanding early symptoms leads to a late diagnosis and high mortality rates.
Aims: To describe presenting symptoms, risk factors, and medical care delays among breast cancer patients in Iraq.
Materials & Methods: A retrospective, descriptive study conducted in Al-Hussein center in Karbala province of Iraq between February 2012 and August 2020.
Results: There were 101 female patients with breast cancer, median age was 45 years. Most of our patients diagnosed incidentally and only 17.82% of our patients were performing breast self examination. Lack of physical activity was the most common risk factors in more than 74% of patients. Painless breast lump was the most frequent symptom in 85.14% of patients. Majority of our patients 58.42% asked medical help within six months. Limited knowledge about symptoms was the common barriers for early diagnosis in 43.94% of patients.
Conclusion: Lack of knowledge about breast cancer had a major concern in our region. Increasing awareness about early symptoms and risk factors is very important for early diagnosis and proper management.

Introduction

Worldwide, breast cancer accounting for almost 1 in 4 cancer cases among women. It is the most frequently diagnosed cancer in the vast majority of the countries [1]. In Iraq it represents more than 24% of total cancer cases making it a great challenge to the health system in our country [2].

There were several risk factors are known for breast cancer such as aging, female gender, smoking, alcohol, obesity, hormonal-replacement therapy and family history. Awareness of these factors and understanding of personal risks are essential factors for early identification, disease prevention and proper management [3-5]. Late diagnosis leads to high mortality rates among breast cancer patients, therefore researches on breast cancer prevention are performed largely around the world [6-7].

Breast self examination (BSE), screening mammography may help for early breast cancer detection [8-9]. Screening mammography for women ≥ 40 years is approved by all major US medical organizations. It is decrease mortality from breast cancer by about 20%-35% in women aged 50 to 69 years. In young age with high risk magnetic resonance imaging and ultrasound are being tested, but are not approved for screening the general population [10].

In this study, we investigated breast cancer risk factors, most common presenting symptoms and barriers of early diagnosis among Iraqi patients. It can help to provide basic information and to develop future treatment strategies in our country.

Materials and Methods

This a retrospective, descriptive study conducted in Al-Hussein cancer center in Karbala province of Iraq on breast cancer patients during period from February 2012 and August 2020. This center was established in November 2011 with oncology & hematology wards. It covers not only Karbala population but other patients from Middle Euphrates region of Iraq are referred to this center for solid & hematological malignancy treatment [11-12]. We selected 101 female breast cancer patients, they were asked directly and all the information were recorded through their regular visits to our center.

The questionnaire included: Section A, section B and section C. Section A dealt with socio-demographic details including: Age, marital status, number of pregnancies, family history, level of education and family income. Regarding income, we divided our patients into: low monthly income less than 500,000 Iraqi Dinars (IQD), middle monthly income within 500,000 – 1,000,000 IQD and high income over 1,000,000 IQD per month [13].

In Section B, the questions were on presenting symptoms, stage, barriers and duration for seeking medical help. In section C, the questions raised about risk factors for breast cancer in our patients.

Patients with non-conclusive results were excluded from this study. Collected information was kept confidential. This study was approved by review ethical committee of Karbala teaching hospital, Iraq.

Results

Socio-demographic data

There were 101 women enrolled in our study. Median age was 45 years, range was (25-70) years. Majority of our patients were married in 91 patients (90.09%) and 35 patients (34.65%) were illiterates. Only 13 patients (12.87%) had family history of breast cancer. Other data are explained in (Table 1).

Variable	Number (Percent)
Age in years	
20-30	7 (6.93)
31-40	24 (23.76)
41-50	41 (40.60)
51-60	21 (20.79)
> 60	8 (7.92)
Marital status	
Single	4 (3.96)
Married	91 (90.10)
Divorced	1 (0.99)
Widowed	5 (4.95)
Education	
Illiterate	35 (34.65)
Primary school	12 (11.89)
Secondary school	16 (15.84)
Higher education	38 (37.62)
Occupation	
Employed	26 (25.75)
Unemployed	75 (74.25)
Family income	

Low	32 (31.68)
Middle	56 (55.44)
High	13 (12.88)
Number of pregnancies	
0	6 (5.94)
1	6 (5.94)
2-4	48 (47.52)
>4	41 (40.60)
Family history of breast cancer	
Yes	13 (12.87)
No	88 (87.13)

Table 1. Socio-demographic Variables of 101 Patients.

Most of our patients 74.26% diagnosed incidentally after developing symptoms, while 17.82% performed BSE and only 7.92% had opportunity to screening mammography (Figure 1).

Figure 1. The Distribution of Different Procedures of Early Detection among Studied Subjects.

Risk factors

The most common risk factors for breast cancer in our patients were: Lack of physical activity in 75 patients (74.26%) followed by breastfeeding (< 6 months) in 31 patients (30.69%), low vegetable intake (< 3 times per week) in 27 patients (26.73%), obesity in 26 patients (25.74%), high fat diet (> 3 times per week) in 24 patients (23.76%), oral contraceptive use in 21 patients (20.79%), nulli para in 6 patients (5.94%), using hormone replacement therapy in 4 patients (3.96%), early onset of menses (before the age of 12 years) in 4 patients (3.96%), smoking in 3 patients (2.97%), late menopause (after the age of 55 years) in 3 patients (2.97%) and high-dose radiation to chest in 2 patients (1.98%) as shown in (Figure 2).

Figure 2. Distribution of Different Known Risk Factors among Our Breast Cancer Patients.

Breast cancer symptoms

Most frequent symptom was painless breast lump in 86 patients (85.14%) followed by lump under armpit in 36 patients (35.65%), breast asymmetry in 24 patients (23.77%), nipple retraction in 19 patients (18.82%), change in breast shape in 18 patients (17.82%), dimpling of breast skin in 15 patients (14.86%), breast pain in 10 patients (9.90%), nipple discharge in 7 patients (6.94%) and bloody discharge in 4 patients (3.97%) as shown in (Table 2).

Variable	Nuimber (Percent)
Painless breast lump	86 (85.14)
Lump under armpit	36 (35.65)
Breast asymmetry	24 (23.77)
Nipple retraction	19 (18.82)
Change in breast shape	18 (17.82)
Dimpling of breast skin	15 (14.86)
Breast pain	10 (9.90)

Nipple discharge	7 (6.94)
Bloody discharge	4 (3.97)

Table 2. Distribution of Different Presenting Symptom in Our Patients.

Presenting stages

The most common presenting stage in our patients was stage III in 40 patients (39.60%) followed by stage II in 32 patients (31.68%), stage IV in 22 patients (21.78%) and stage I in 7 patients (6.93%) as shown in (Figure 3).

Figure 3. Distribution of Presenting Stages among Studied Population.

Time to reach final diagnosis

Most of our patients asked medical help within 1 - 6 months in 59 patients (58.42%) while 35 patients (34.65%) diagnosed within 1 month, 6 patients (5.94%) diagnosed within 7-12 months and 1 patient (0.99%) diagnosed after one year (Table 3).

Time	Number (Percent)
< 1 month	35 (34.65)
1 month - 6 months	59 (58.42)
7 months – 12 months	6 (5.94)
> 12 months	1 (0.99)
Total	101 (100)

Table 3. Distribution of Patients Delays in Seeking Care among the Studied Populations. Time from Symptoms to Diagnosis.

Barriers for early diagnosis

The most common barrier for urgent medical help was limited knowledge about symptoms in 43.94% followed by neglect in 39.39%, fear in 12.12% and not having doctor nearby in 4.54% as shown in (Figure 4).

Figure 4. Frequency of Different Barriers for Early Diagnosis.

Discussion

Cancer patients tend to present with heterogonous presentations and complications making treatment of those patients as a serious issue. Detection of the disease in its early stages before the appearance of signs & symptoms improve outcomes dramatically [14-20]. This study was carried out to understand risk factors, presenting symptoms and barriers to urgent medical help among breast cancer patients in Middle Euphrates region of Iraq. Median age in our study was 45 years, this younger than median age in other parts of Iraq (49 years), Turkey (51 years) and US (62 years) this may be explained by our small sample size and short follow- up period [21-23]. Majority of our patients diagnosed incidentally, 17.82% performed BSE and only 7.92% performed screening mammography. Same results from Africa where majority of patients diagnosed incidentally after

symptoms development. Unfortunately, our screening results revealed low compliance comparing to previous studies in other parts of Iraq, US, Saudi Arabia, Turkey and Iran [24-30].

Unhealthy life style was the main risk factor in our patients same results among Indian and Jordanian women [31-32]. But in Europe the use of hormone therapy, older age at the first birth and smoking were common risk factors [33]. On other hand about 12.8% of our patients had family history of breast cancer. This lower than previous studies in Iraq (18.7%) Turkey (15.8%) but it is higher than in India (4.2%) [22,34-35].

Breast painless lump was the most reported symptom among our patients, same results in previous studies in Iraq, India, Turkey and UK [22, 34, 36]. Our patients tend to present in late stages, this was agreed with results in previous studies in Iraq and Africa where most of patients presented in advance stages. However, European women are more likely to present when the disease is still in its early stages [37-38].

Most of our patients asked medical help within six months after observing symptoms. This is longer than time in neighboring and high-income countries where the median time for medical consultation was 7-16 days only [39-40]. The most frequent barrier for early diagnosis in our study was limited knowledge about symptoms and neglect which is same in neighboring and African countries [26, 40].

In conclusion, most of our patients diagnosed incidentally after appearance of symptoms. Unhealthy life style was the most common risk factor and breast lump was the most frequent symptom. Our patient tends to present in advance stages and majority of them wait 1-6 months before final diagnosis. Limited knowledge about symptoms and neglect were the main barriers for early diagnosis. Our findings show the need for community awareness and education programs about breast cancer signs, symptoms and treatment options among Iraqi women.

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