Challenging at the time of early breast cancer diagnosis

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Abstract

Breast cancer is the most frequently diagnosed cancer among women worldwide. The diagnostic phase in the management of breast cancer, between detecting something unusual to receiving a diagnosis, has been described as a devastating period. To demonstrate that the clinical decision-making and provided health professionals with an appreciation of women's experience of making decisions and an understanding of the types of decisions that women may need to make when they are diagnosed with breast cancer. This study was conducted on 30 patients with early-stage breast cancer at Tobruk Medical Center during the period from July 2022 to December 2023. Our study showed that, there was 56.7% of patients married, 6.7% of patients were partner while there was 36.6% of patients single. There was 26.7% of patients didn't have children at home, 23.3% of patients had one child at home while there was 50% of patients had 2 or more children. There was 90% of patients had local stage of disease while there was 10% of patients had regional stage of disease. There was 33.3% of patients were diagnosed for one year, 26.7% of patients were diagnosed for 2.3 years while 40% of patients were diagnosed since more than three years. We conclude that the earlier the diagnosis of breast cancer is, the less bad the consequences will be. Understanding women's decision-making processes and strategies can lead to better experiences and outcomes.

Full length article   *Corresponding Author*, e-mail: dr.faraj@surgeon.ly

1. Introduction

The diagnostic phase in the management of breast cancer, between detecting something unusual to receiving a diagnosis, has been described as a devastating period [1,2] during which women experience high levels of anxiety and uncertainty [3]. This stage usually lasts from a few days to a few weeks [4], and affects one in eight women in Canada who are likely to develop breast cancer during their lifetime, as well as those women with a benign lump or ductal carcinoma in situ (DCIS). In this emotional, and sometimes life-changing, period, women often need to make treatment decisions quickly before they know their precise diagnosis (i.e., the pathology results) or overall care plan [5]. The diagnostic and treatment pathway for breast cancer can be complex, and may vary widely between individual patients [5,6]. There are, however, some commonalities in treatment for many women – often beginning with diagnostic testing after a lump or unusual finding, followed by surgery and then some combination of chemotherapy, radiotherapy, reconstruction and/or hormone therapy [7]. Women who notice something unusual in their breast generally visit their physician or a specialized breast center. Depending on the irregularity, women may have a needle biopsy done in the physician's office or done surgically at the hospital. If the surgeon delivers a cancer diagnosis, women are then referred to an oncologist for specialized cancer care and support [8]. Specific treatment options are often unique for

each patient and can depend on a variety of factors, including personal circumstances, diagnosis, stage, available treatment options, and access to healthcare services [9]. Access to relevant, high-quality information appears particularly problematic around the time of diagnosis, and women typically turn to their healthcare team as a first port of call for appropriate information. Healthcare professionals (HCPs) are, therefore, in an excellent position to explore patient needs and assist in the provision or recommendation of quality information [8-10]. This study aimed to demonstrate that the clinical decision-making and provided health professionals with an appreciation of women's experience of making decisions and an understanding of the types of decisions that women may need to make when they are diagnosed with breast cancer.

2. Materials and Methods

This study was conducted on 30 patients with early-stage breast cancer at Tobruk Medical Center during the period July 2022 to December 2023.

2.1. Inclusion criteria

We included individuals diagnosed with early-stage breast cancer (Stage 0, Stage I, or Stage II) as per the

American Joint Committee on Cancer (AJCC) TNM staging system. Patients aged 18 years or older, Patients with histologically confirmed breast cancer diagnosis, Patients with documented medical records indicating the challenges faced at the time of diagnosis, Patients presenting with clinical symptoms or signs of breast cancer such as a breast lump, skin changes, nipple discharge, or breast pain.

2.2. Exclusion criteria

We excluded patients diagnosed with advanced-stage breast cancer (Stage III or Stage IV) at the time of initial diagnosis, Patients with recurrent breast cancer, Patients with a history of previous breast cancer treatment, Patients with bilateral breast cancer diagnosis.

2.3. Ethical Consideration

Approval and Ethics Committee was taken before preceding the study. The informed consent was obtained.

Patients were subjected to: Complete history taking included (personal and medical history and family history of breast cancer, partner status and children at home, stage of disease, years since diagnosis).

Investigational studies: Laboratory investigation included (Complete blood picture (CBC), renal function test, serum amylase and lipase and tumor markers). Investigators have studied many diagnostic methods for diagnosing early-stage breast cancer, including mammography, MRI, ultrasonography, PET, breast MI and biopsy.

Physical examination: including visual inspection, palpation, axillary examination, nipple examination and clinical breast exam (CBE).

Clinical stages of breast cancer by TNM staging system developed by the American Joint Committee on Cancer (AJCC): Stage 0 - Indicates carcinoma in situ. Tis, N0, M0, Stage I - Localized cancer. T1-T2, N0, M0, Stage II - Locally advanced cancer, early stages. T2-T4, N0, M0, Stage III - Locally advanced cancer, late stages. T1-T4, N1-N3, M0 and Stage IV - Metastatic cancer. T1-T4, N1-N3, M1. Mammographic and ultrasound evaluations of the breast were done at the mammography unit of the radio-diagnosis department by a professional radiologist to all studied females. Suspicious cases were referred to surgery unit for biopsy followed by histopathological examination.

2.4. Data collection tools

The study used three tools to collect data on women's knowledge and attitudes towards breast self-examination. The first tool was a structured interviewing questionnaire, which assessed socio-demographic characteristics such as age, education, occupation, income, and marital status. The second tool was a women's knowledge regarding breast self-examination questionnaire, which included ten items related to the definition of breast self-examination, its importance, and abnormalities. The total knowledge score was 20. The third tool was a women's attitude scale, which included 14 questions and scored based

on agreement, neutrality, and disagreement. The total attitude score was 42, with scores ranging from 21 to 21. The third tool was an observational checklist, which assessed women's practices regarding breast self-examination within 25 to 30 minutes, involving 15 steps. The total practice score was 15 [11].

2.5. Statistical analysis

Data collected throughout history, basic clinical examination and outcome measures coded, entered and analyzed using Microsoft Excel software. Data were then imported into Statistical Package for the Social Sciences (SPSS version 22.0) (Statistical Package for the Social Sciences) software for analysis. According to the type of data qualitative represent as number and percentage, quantitative continues group represent by mean ± SD, the following tests were used to test differences for significance. Difference and association of qualitative variable by Chi square test (X^2). Differences between quantitative independent groups by t test. P value was set at <0.05 for significant results & <0.001 for high significant result.

3. Results and discussion

Table 1 shows that, age of the studied patients ranged from 22-39 with mean value 29.5±5.36. BMI ranged from 20.78-31.41 with mean value 24.68±2.76. Table 2 shows that, there was 56.7% of patients married, 6.7% of patients were partner while there was 36.6% of patients single. There was 26.7% of patients didn't have children at home, 23.3% of patients had one child at home while there was 50% of patients had 2 or more children. Table 3 shows that, there was 90% of patients had local stage of disease while there was 10% of patients had regional stage of disease. There was 33.3% of patients were diagnosed for one year, 26.7% of patients were diagnosed for 2.3 years while 40% of patients were diagnosed since more than three years. Table 4 shows that, there was 73.3% of patients had remission status, 26.7% of patients had treatment, 3.3% of patients had mastectomy, 6.7% of patients had chemotherapy, 10% of patients had metastasized status and 10% of patients the treatment not specified in them. Table 5 shows that, 63.3% of patients had Mastectomy, 36.7% of patients had Lumpectomy. Table 6 shows that, 83.3% of patients had chemotherapy, 70% of patients had radiation therapy while 80% of patients had hormone therapy. Breast cancer is the most frequently diagnosed cancer among women worldwide and is the most common cancer, falling only second to lung cancer. The incidence rate of breast cancer is higher in Western European countries as compared to Eastern Asian or African countries [12]. However, survival rates are much higher in Western European countries as compared to low- and middle-income countries [13]. This is attributed to the significantly better screening and treatment facilities prevalent in high-income countries. In addition, higher awareness about the timely screening of mammography in high-income countries has reduced breast cancer mortality in the previous four decades [14]. The current study showed that, age of the studied patients ranged from 22-39 with mean value 29.5±5.36. BMI ranged from 20.78-31.41 with mean value 24.68±2.76.

Table 1. Distribution of demographic data in the studied patients.

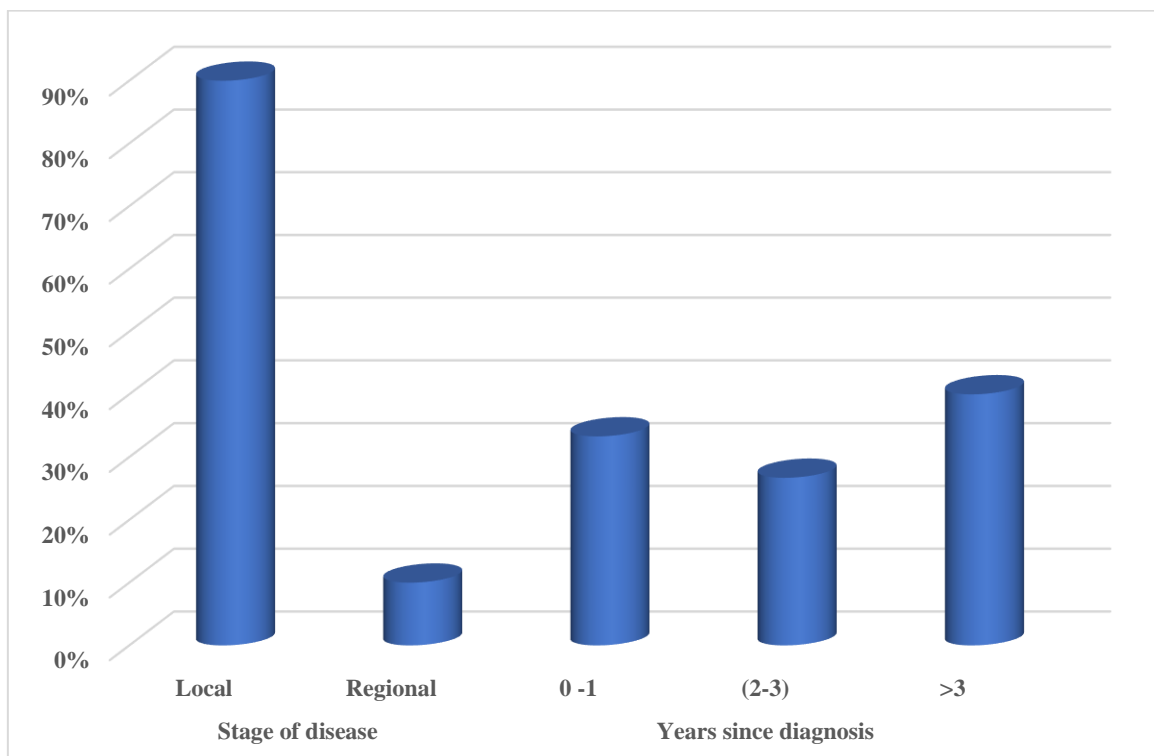|	**Studied patients N=30**
Age (years)	
Range	22-39
Mean± SD	29.5±5.36
BMI (kg/m²)	
Range	20.78-31.41
Mean± SD	24.68±2.76

Table 2. Distribution of partner status and children at home in the studied patients.

	Number N=30	**Percent %**
Partner status		
Married	17	56.7%
Partner	2	6.7%
Single	11	36.6%
Children at home		
0	8	26.7%
1	7	23.3%
2 or more	15	50%

Table 3. Distribution of disease characterizations in the studied patients.

	Number N=30	Percent %
Stage of disease		
Local	27	90%
Regional	3	10%
Years since diagnosis		
0 -1	10	33.3%
2-3	8	26.7%
>3	12	40%

Figure 1. Shows distribution of disease characterizations in the studied patients.

Table 4. Distribution of Current status in the studied patients.

	Number N=30	Percent %
Current status		
Remission	22	73.3%
In treatment	8	26.7%
Mastectomy	1	3.3%
Chemotherapy	2	6.7%
Metastasized	3	10%
Treatment not specified	3	10%
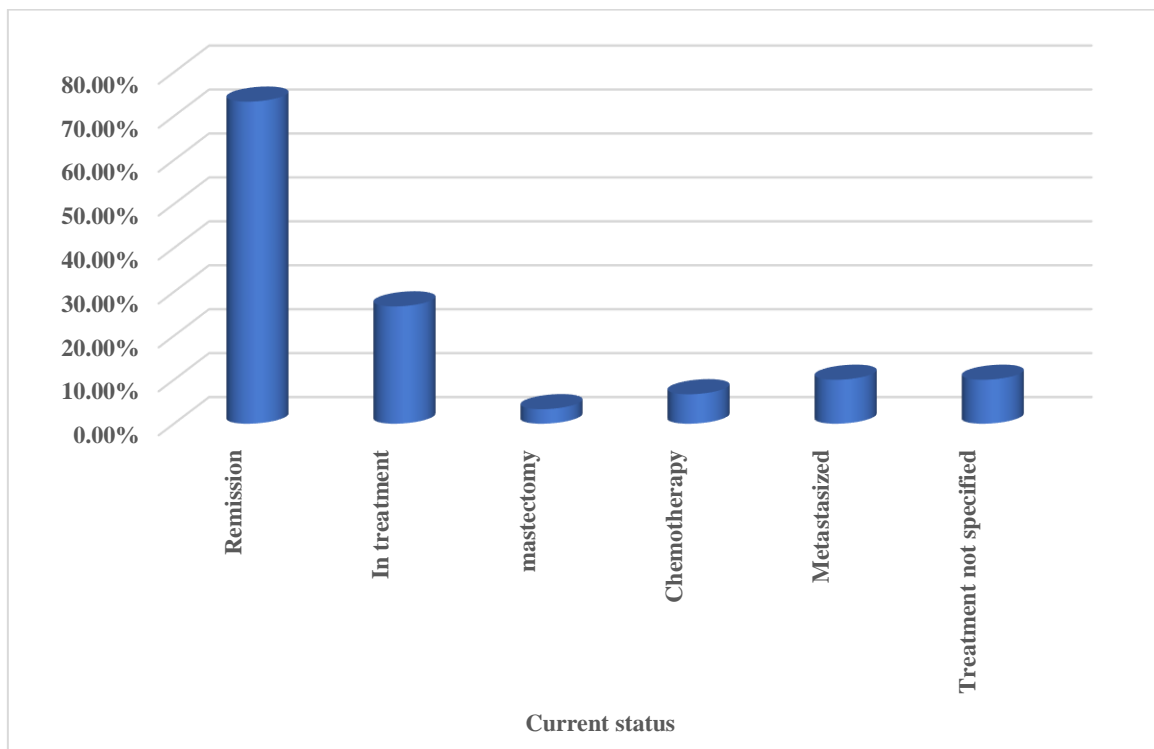
Figure 2. Shows distribution of current status in the studied patients.

Table 5. Distribution of type of surgical treatment in the studied patients.

	Number N=30	Percent %
Type of surgical treatment		
Mastectomy	19	63.3%
Lumpectomy	20	66.7%

Table 6. Distribution of adjuvant therapy in the studied patients.

	Number N=30	Percent %
Adjuvant therapy		
Chemotherapy	25	83.3%
Radiation therapy	21	70%
Hormone therapy	24	80%

Our results supported with Hutajulu et al. [15] who aimed to investigate factors associated with delays in presentation and diagnosis of women with confirmed breast cancer (BC). Their mean age was 52±9.0. Regarding BMI there was <23 68(45%), and ≥ 23 82(54.7). Also, Lan et al. [16] who aimed to evaluate the psychological status of Chinese postoperative breast cancer patients aged 35 years or younger and understand the associated factors in this patient group. Their cross-sectional study prospectively enrolled 114 Chinese postoperative breast cancer patients aged 35 years or younger. The authors reported that the median age was 32.5 (range, 26.0-35.9) years old in their cohort. Furthermore, Muzzatti et al. [17] who aimed to assess if QoL of 18–45 years old female breast cancer patients were different from the QoL of women from the general population and if it changed over time. Secondly, it described the psychological distress and its changes over time. Finally, it assessed whether QoL registered 1-year post-surgery may be explained by QoL and/or psychological distress registered during hospital stay. One hundred six, consecutive 18–45 years old, female primary breast cancer patients undergoing anticancer surgery filled out the Short Form 36 Health Survey Questionnaire, the Hospital Anxiety and Depression Scale and a socio-demographic and clinical form during hospitalization to receive surgery (T0), and again at 12 months post-surgery (T1). The final sample consisted of 106 participants; the median age was 40.5 years (range: 25–45 years), and 39 (36.8%) were females aged < 40 -year-old. Also, Buono et al. [18] who aimed to investigate the impact of metabolic syndrome (MetS) and its components on early BC (eBC) patients' outcome. Their study included Overall, 544 (75.9%) and 173 (24.1%) women were categorized as non-MetS and MetS. The age of their participants was ≤50 years. Furthermore, Tamminga et al. [19] who study on 899 women, they demonstrated that the mean age of the studied cases was 54.3 ± 6.4. Our findings showed that, there was 56.7% of patients married, 6.7% of patients were partner while there was 36.6% of patients single. There was 26.7% of patients didn't have children at home, 23.3% of patients had one child at home while there was 50% of patients had 2 or more children. Our results supported with Muzzatti et al. [17] who demonstrated that eighty-eight (83.8%) participants reported a post-compulsory education (i.e., more than 8 years of schooling); 78 (73.6%) reported to be in a stable relationship (i.e., being married or cohabiting); and 84 (79.2%) reported having a paying job. 53 (50%) and 53 (50%) had received quadrantectomy and mastectomy, respectively. Furthermore, Tamminga et al. [19] who demonstrated that there were 871 patients, Number of children to take care of at the time of breast cancer diagnosis (mean ± SD) 1.1 ± 1.2. regarding marital status (N (%)) there were 679 (75%) married, and 223 (25%) not married. Regarding our results, there was 90% of patients had local stage of disease while there was 10% of patients had regional stage of disease. There was 33.3% of patients were diagnosed for one year, 26.7% of patients were diagnosed for 2.3 years while 40% of patients were diagnosed since more than three years. Hutajulu et al. [15] who reported that the median time to presentation from initial symptoms experienced by participants was 2 months (61 days). Eighty-five (56.7%) respondents had a consultation with a medical professional within 3 months after detecting their symptoms, while 65 (43.3%) delayed the consultation by ≥3 months. The median time to diagnosis confirmation from first consultation experienced by participants was 1 month. As many as 53 (35.3%) respondents had their breast cancer diagnosed within 1 month while 97 (64.7) participants had confirmation by ≥1 month. Overall, the median time to diagnosis from initial symptom was 7 months. Participants were observed to have a 2-month median presentation time and 1-month diagnosis time. The median time to diagnosis from initial symptom was 7 months. 43.3% of respondents delayed the consultation by ≥3 months and 64.7% had diagnosis confirmation by ≥1 month. Furthermore, Tamminga et al. [19] who demonstrated that majority was local stage of disease. This study showed that, there was 73.3% of patients had remission status, 26.7% of patients had treatment, 3.3% of patients had mastectomy, 6.7% of patients had chemotherapy, 10% of patients had metastasized status and 10% of patients the treatment not specified in them. There was 63.3% of patients had mastectomy, 36.7% of patients had lumpectomy. This study showed that 83.3% of patients had chemotherapy, 70% of patients had radiation therapy while 80% of patients had hormone therapy. Our results supported with Lan et al. [16] who demonstrated that in terms of clinical factors, more than half of patients (52.6%, 60/114) had mastectomy and nearly half (46.5%, 53/114) of patients had a pathologic stage I. In addition, 82.5% (94/114) patients were categorized as hormone (estrogen and/ or progesterone) receptor positive; 39.5% (45/114) patients had human epidermal growth factor receptor 2-positive disease (immunochemistry 3+, or immunochemistry 2+ confirmed by fluorescent in situ hybridization); 8.8% (10/114) patients claimed to have family history of breast cancer. There were 90.4% (103/114) and 70.2% (80/114) patients received adjuvant chemotherapy and radiotherapy, respectively. A total of 91 (79.8%) patients received adjuvant endocrine therapy, and among them, 30 patients received tamoxifen alone; 61 patients received ovarian function suppression (OFS) plus tamoxifen or aromatase inhibitors. Moreover, Muzzatti et al. [17] who reported that 53 (50%) and 53 (50%) had received quadrantectomy and mastectomy, respectively. Thirty women (56.6%), receiving quadrantectomy, and 26 women (49.1%), receiving mastectomy, underwent axillary lymph node dissection. During breast surgery, 10 (9.4%) women also underwent to breast reconstruction, whereas 4 patients (3.8%) received intraoperative radiotherapy. After surgery, 62 women (58.5%) received adjuvant chemotherapy (for 6–24 weeks), 44 received adjuvant radiotherapy, 81 (76.4%) hormonotherapy, and 16 (15.1%) monoclonal antibodies. Also, Buono et al. [18] who demonstrated that the studied patients in non-MetS, and non-MetS treated by Chemo only 80 (15.4%), and 25 (15.9%), Hormone only 188 (36.2%), and 65 (41.4%), and Chemo + hormone 251 (48.4%), 67 (42.7%) respectively. Furthermore, Tamminga et al. [19] who demonstrated that 469 (52%) Chemotherapy (N (%)), and 342 (38%) hormone therapy (N (%)).

4. Conclusions

Regarding our results, we conclude that the earlier the diagnosis of breast cancer is, the less bad the consequences will be. Understanding women's decision-making processes and strategies can lead to better experiences and outcomes.

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