Surgical Decision Making Considering Body Image in Post Menopausal Breast Cancer Patients

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Abstract

Purpose: In most of the developing counties postmenopausal breast cancer cases are offered a radical form of surgery relying on their unawareness about body image. We evaluate the effect of breast cancer surgical choice; Conservative Breast Therapy (BCT) or Modified Radical Mastectomy (MRM); on body image in Egyptian postmenopausal cases.

Patients and Methods: A prospective randomized trial of 100 postmenopausal women who had stage I & II breast cancer. Half of them had BCT and the other half had MRM. Sociodemographic data were collected and pre and postoperative assessments of body image distress were done using four scales; Breast Impact of Treatment Scale (BITS), Impact of Event Scale (IES), Situational Discomfort Scale (SDS), Body Satisfaction Scale (BSS).

Results: The patients’ ages ranged from 43-82 years (54.28 ± 8.84). Preoperative assessment shows no statistical significant difference as regarding cognitive, affective, behavioral and evaluative components of body image between both studied groups. While in postoperative assessment, women in MRM group showed higher levels of body image distress among cognitive, affective and behavioral aspects. For the evaluative aspect, there was no statistical significant difference between both groups.

Conclusion: Body image is as important for postmenopausal women as for younger women. Even in developing countries, where the concept is ignored, we should not deprive postmenopausal breast cancer cases from their right of a less mutilating option of treatment as BCT.

Key Words: Body Image – Post menopause – Breast cancer.

Introduction

BREAST cancer is the most common cancer in women in developed western countries [1] and is becoming ever more significant in many developing countries [2]. In Egypt, breast cancer is the most common cancer among women, representing 18.9% of total cancer cases (35.1% in women and 2.2% in men) [3] with an age-adjusted rate of 49.6 per 100 000 population [4].

Breast cancer is largely a disease of old age [5]. Older women, who account for more than half of the new cases of breast cancer each year [6], are the fastest growing segment of the United States population [7]. Therefore, during the coming decades, older women will account for an increasing absolute number of new cases and survivors [8]. At present, treatment for this growing diverse population is variable and represents evolving paradigms [9]. Decisions about optimal treatment patterns will ultimately depend on trial data about efficacy and women’s treatment preferences.

Several investigators with early-stage breast cancer have two surgical options for treating local disease, breast conservation surgery with radiation or mastectomy [10]. Because these treatments are equivalent with respect to survival, preferences for treatment may be important in quality-of-life outcomes [11]. Preferences about maintaining body image are a key component in decision making for younger women [12].

Multiple studies have demonstrated that treatment for women with breast cancer differs substantially by patient age, with older women more likely to receive a more radical surgery [13]. This view is greatly adopted in many developing countries and the reasons for these differences in patterns of care of older patients are probably multifactorial and may include poorer performance status, less social support, difficulty with transportation, patient or family preference, negligence of quality of life (QOL), lower life expectancy and age bias [14]. In addition, because so few research studies have
included older women, the lack of data may lead to less aggressive care.

Multiple studies show that, women with breast conserving surgery generally exhibit more positive body image [15] are less likely to become self-conscious about body presentation [16] or experience feelings of loss and are more likely to maintain feelings of physical attractiveness and femininity compared with women who receive mastectomies [17]. However, none of these studies focused on older women, leaving a large and growing segment of breast cancer survivors understudied with respect to body image preferences and QOL outcomes.

Our study is directed to examine the relationship between body image and the two surgical options (conservative breast surgery versus mastectomy) in Egyptian postmenopausal breast cancer cases.

**Material and Methods**

**Participants:**

This study was enrolled between February 2004 and December 2007. Briefly a sample of 100 post menopausal women with newly diagnosed breast cancer was recruited from the surgical department of Mansoura University Hospital.

Women were eligible for participation if they had stage I or II breast cancer. Women were excluded if they had chronic debilitating diseases (e.g. heart disease, DM), if they had history of breast cancer or other cancers also if they had deformities or cosmetic problems that may interfere with proper evaluation of body image disturbances.

We conducted a prospective randomized trial where we collected 50 postmenopausal women of those prepared to undergo modified Radical Mastectomy (MRM) and 50 others of those prepared to have Conservative Breast Therapy (CBT).

**Procedures:**

Ethical approval was received from Mansoura Medical Ethical Committee. After a written and verbal consent, data were collected from patient interviews and medical records. Good interpersonal relationship was established preoperatively and necessary sociodemographic data were collected including patient's age, level of education, occupation, fear of recurrence, degree of support provided to them by their partners and patients’ beliefs about their illness.

Body image scales were introduced preoperatively and women were asked to rate their current level of distress. Another assessment by the same scales was done postoperatively after complete wound healing to judge body image after actual change caused by surgical intervention.

**Measures:**

Body image scales were used to explore the subject's self appraisal response following surgical treatment of breast cancer. The following scales were used:

1. **Breast impact of treatment scale (BITS):** It was developed by Yurek (1997) to assess the intrusive and avoidant response to the hypothesized traumatic event of surgical treatment of breast cancer (cognitive aspect). Intrusive response questions evaluate pervasive thoughts as "things I see or hear remind me that my body is different", troubling images as "how my body has changed pops into my mind", troubling dreams and strong waves of feeling as "I think about how my body looked before I was treated". Avoidant response questions measured limited cognitive experience, subjective awareness of emotions surrounding the event, as "I feel self conscious about letting my partner see my scar", denial surrounding the event as "I avoid looking at and touching my scar" and behavioral limitations due to nature and consequences of the event. The BITS contains 15 item questionnaire, each item is weighed in 4 points scale (0=not at all, 1=rarely, 3=sometimes and 5=often). Total score ranges from 0-75 with cut off point 26. This score indicates the severity of body image distress as following: 0-25 mild range, 26-43 moderate range, 44+ severe range.

2. **Impact of Event Scale (IES):** It was developed by Horowitz, Wilner and Alvez (1979) as a 15 item standardized self report questionnaire used to measure current subjective stress related to a specific event (affective aspect). Women experiencing involuntary distress following traumatic life events fell into two responses; intrusion and avoidance. Intrusive thoughts were assessed by items as "I had dreams about being a cancer patient". Avoidant thoughts and behaviors were assessed by items such as "I tried not to talk about it". Women rate the frequency of these 15 feelings or events during past seven days using a 4 points scale (not at all=0, rarely=1, sometimes=3 and often=5). Total score ranges from 0-75 with cut off point 26. This score indicates the severity of body image distress as following: 0-25 mild range, 26-43 moderate range, 44+ severe range.

3. **Situational Discomfort Scale (SDS):** It was developed by Yurek (1997) consisting of five items based on retrospective psychosocial research on
distressing situations following breast cancer surgeries (behavioral aspect). Participants rated their current level of distress across five situations e.g. (looking at your chest in the mirror when you are unclothed, undressed in front of other women, undressed in front of your partner, letting other women see the surgical site, and letting partner see the surgical site) using a 5-point scale (1=not at all distressed, 2=a little distressed, 3=somewhat distressed, 4=moderately distressed, 5=extremely distressed) the five situational discomfort items were summed to obtain a total distress score (range 5-25) and higher scores represent greater distress.

4- Body Satisfaction Scale (BSS): It is an abbreviated form developed by Andersen and LeGgrand (1991) consisting of 10 items which measures the external body satisfaction following surgical procedures (evaluative aspect). Factor analysis has yielded two factors: The first one deals with Satisfaction With Appearance and the second factor deals with Weight or Body Correlates of Weight. In addition, a single item assessed satisfaction with overall appearance. The items of this scale were rated separately on a six points satisfaction/dissatisfaction scale (1= extremely satisfied, 2=moderately satisfied, 3=satisfied, 4=dissatisfied, 5=moderately dissatisfied, 6=extremely dissatisfied) with a higher score indicating greater body dissatisfaction.

Statistical analysis:

Collected data were coded and then analyzed using the statistical package for the social sciences (SPSS) for windows (version 10.0) to test the statistical significant difference between groups. The description of data was done in form of mean ± standard deviation (SD) and frequency & proportion for qualitative data. Chi-square test was conducted to investigate qualitative data (frequency & proportion). Student t-test was conducted to investigate quantitative data (mean ± SD) between the two groups. Significant level of p is ≤0.05 at confidence interval 95%.

Results

Demographics:

Patients' characteristics are presented in Table (1). The age range of the patients was from 43 to 82 years old with a mean of 54.28 years and SD of ±8.84 years. Patients in the BCT group were slightly older than patients in the mastectomy group. The mastectomy group contained a larger proportion of illiterate women (70%). In BCT group, women were more likely to report fear of recurrence than women in the mastectomy group and slightly exhibit more supportive relationships with their partners. There was no difference between the two groups as regarding the acceptance of the reality about their illness or percentage of working women.

Table (1): Demographic data.

<table>
<thead>
<tr>
<th>Sociodemographic characteristics</th>
<th>BCT</th>
<th>MRM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43-50</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>51-60</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>61-70</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>71-82</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Level of education:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>28</td>
<td>56</td>
</tr>
<tr>
<td>Literate</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>Occupation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>House wife</td>
<td>38</td>
<td>76</td>
</tr>
<tr>
<td>Working</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Relation with partner:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Not supportive</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Supportive</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>Very supportive</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Fear from recurrence:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>41</td>
<td>82</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Believes of illness:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not accepted</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>Accepted</td>
<td>36</td>
<td>72</td>
</tr>
</tbody>
</table>

BCT: Breast conserving therapy. MRM: Modified radical mastectomy.

For the measure of cognitive impact of body image distress preoperatively, the Chi square showed no significant statistical difference (x² = 3.682, p=0.159) between both studied groups. Postoperatively it showed significant statistical difference (x² =6.413, p=0.040) between both studied groups where more than half of the patients (62%) in BCT group showed mild degree of distress while most of the patients in MRM group showed moderate (40%) and severe (22%) degree of distress indicating that postmenopausal women receiving BCT reported significantly less degree of cognitive distress than did those receiving MRM (Fig. 1).

Regarding the measure of affective impact of body image distress preoperatively, the Chi square showed no significant statistical difference (x² = 3.380, p=0.185) between both studied groups. Postoperatively it showed significant statistical difference (x²=7.865, p=0.020) between both
studied groups where only 10% of the patients in the BCT showed moderate (4%) and severe (6%) degree of affective distress while 32% of the patients in the MRM group showed moderate (20%) and severe (12%) degree of distress indicating that postmenopausal women receiving BCT reported significantly less degree of affective distress than did those receiving MRM (Fig. 2).

As for the measure of behavioral impact of body image distress preoperatively, the Chi square showed no significant statistical difference ($\chi^2 = 1.021, p = 0.600$) between both studied groups. Postoperatively it showed significant statistical difference ($\chi^2 = 6.006, p = 0.05$) between both studied groups where more than half of the patients (52%) in BCT group showed mild degree of distress while more than half of the patients (52%) in MRM group showed severe degree of distress indicating that postmenopausal women receiving BCT reported significantly less degree of behavioral distress than did women receiving MRM (Fig. 3).

Finally, for the measure of evaluative impact of body image distress preoperatively The Chi square showed no significant statistical difference ($\chi^2 = 4.239, p = 0.120$) between both studied groups. As for postoperative assessment there was also no significant statistical difference between both studied groups ($\chi^2 = 2.933, p = 0.231$) (Fig. 4).

The mean scores of the impact of distress of the four components of body image distress both pre and postoperatively are shown in Table (2). Preoperatively there was no significant statistical difference between the mean of the different components as well as the total mean ($t = 0.83, p = 0.41$). Postoperatively there was significant statistical difference as regarding different components of body image distress as well as total mean ($t = 2.09, p = 0.041^*$) where distress was more in patients receiving MRM indicating that postmenopausal women treated with mastectomy showed a significantly less favorable body image compared with those treated with BCT.

Table (2): Comparison between BCT and MRM groups as regards level of body image distress during pre and postoperative period.

<table>
<thead>
<tr>
<th></th>
<th>Preoperative</th>
<th></th>
<th>Post operative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BCT Mean ± SD</td>
<td>MRM Mean ± SD</td>
<td>$t$-test</td>
<td>$p$</td>
</tr>
<tr>
<td>Affective impact</td>
<td>49.840±12.819</td>
<td>45.940±13.287</td>
<td>1.494</td>
<td>.138</td>
</tr>
<tr>
<td>Behavioral impact</td>
<td>19.180±6.862</td>
<td>17.520±7.791</td>
<td>1.131</td>
<td>.261</td>
</tr>
<tr>
<td>Total mean</td>
<td>37.41±10.93</td>
<td>35.43±12.93</td>
<td>0.83</td>
<td>.41</td>
</tr>
</tbody>
</table>

BCT : Breast conserving therapy. MRM : Modified radical mastectomy. Mean : Mean score. SD: Standard deviation. (*) : Statistically significant ($p < 0.05$).

Fig. (1): Assessment of cognitive impact of body image distress during pre and postoperative period for both studied groups.

Fig. (2): Assessment of affective impact of body image distress during pre and postoperative period for both studied groups.

BCT : Breast conserving therapy. MRM: Modified radical mastectomy.
Discussion

Although breast cancer continues to be the most common malignant tumor among women, it is a highly treatable disease [18]. Mastectomy (MT) (radical MT or modified radical MT) was the treatment of choice for breast cancer regardless of the patient’s age. At present, it is well accepted that BCT is equivalent to MT in terms of survival for early-stage breast cancer [19-25]. Therefore, breast conservation is widely favored because, based on the emotional attachment to this organ [26], it is seen as less mutilating than MT [27]. Early comparisons of BCT with mastectomy did not demonstrate major psychological advantages. However, more recently, cosmetic results [28] and patient satisfaction [29] following wide local excision was reported and showed that the psychological outcome was better among patients with a better cosmeses [30].

Curran and associates [31] from the European Organization for the treatment of Cancer trial reported that women in the BCT group had better body image and were more satisfied with treatment \( p=0.001 \) than those in the MT group. In a randomized clinical trial, Hopwood et al. [32] found also a clinically significant increase in body image problems for women undergoing mastectomy compared with BCT. Rowland et al. [33] found also that women who had BCT reported statistically significantly fewer problems with their body image and feelings of sexual attractiveness than women who had mastectomy. There are many other researches that reached the same conclusion [27,34-39].

Previous research concerning body image in patients treated for breast cancer primarily include younger and middle-aged women (mean age <55 years) [40-43] and rarely include elderly women (mean age >65 years) [44]. It is not certain whether findings from these studies of younger and middle-aged women can be accurately extrapolated to an elderly population [48]. Another limitation of prior research is that most studies are quantitative in nature and few qualitative studies have specifically studied postmenopausal women’s experience of breast cancer treatment [46] or those from developing countries.

In Egypt, like many other developing countries, most of the people thinks that a postmenopausal woman had finished her maternal role and it wont make a difference for her to remove her breast ignoring the impact of removing an organ that represents a part of her identity and self regardless of her age. In our study, this was evaluated by using four scales in an attempt to cover the four aspects of the body image.

Comparing both groups on dimensions of body image distress revealed that in preoperative assessment, there was no statistical significant difference as regarding cognitive, affective, behavioral and evaluative impact. As for cognitive impact The majority of women in both (BCT) and (MRM)
group had negative thoughts regarding their experience with breast cancer, as women mentioned that they bothered by thoughts of bodily disfigurement. While the affective impact assessment for both studied groups express strong negative feelings. Furthermore, most of them reported that they felt as if diagnosis hadn't happened or it wasn't real. The behavioral impact assessment showed that the majority of both studied groups stated that, they become severely distressed when undressing in front of their partners and avoid letting them to see this site, in addition they reported the same level of distress with other women even family members. These results are in agreement with Perry et al. [47] who stated that, as many as 80% of patients with breast cancer report significant distress after diagnosis and during the initial treatment period and consider feeling of shock, numbness and anxiety about the future treatment and prognosis are normal to receive diagnosis of cancer.

While in postoperative assessment, postmenopausal women in MRM group showed greater level of distress as regarding cognitive, affective and behavioral components. As for self evaluative impact, there was no significant statistical difference. The greater level of body image distress was in the behavioral component where women in both groups rated their level of distress across five situations in which they had either to see their scar or let others see it. As MRM is more disfiguring than BCT, more than half of the women who had MRM had severe degree of distress as regarding behavioral component. These results indicate that postmenopausal women receiving MRM showed a significantly less favorable body image compared with those treated with BCT. This is consistent with researches suggesting that women with BCT demonstrate more positive body images than women with MT for treatment of breast cancer [48-60]. It appears that it is not the cancer that causes of body change distress, but it is the treatment. Also it appears that postmenopausal cases exhibit body image distress as premenopausal ones, so age itself should not be a contra-indication for conservative surgery.

Pozo et al. [61] found no difference between BCT and MRM as regarding body image explaining that the greatest concern for most patients is that they have cancer and are trying to survive it. This especially is likely to remain the patient’s central concern [62]. Poulsen and colleagues [66] also reported that no significant differences were found between the 2 types of surgery on measures of physical state, emotional state, social activity, work activity, body image, marital and sexual life or level of anxiety. But this study differs from ours in that one of its inclusion criteria was that the trial were restricted to age < 69 so the above results does not express the effect on postmenopausal women only as the study includes younger women also with exclusion of large number of the post menopausal women. Also they used Linear Analogue Self-Assessment Scale (LASA) where six quality-of-life domains were assessed on the basis of the respondent’s perception of which did not give them the opportunity to examine body change from its different aspects.

It should be noted that most of the published studies that showed no protection from psychological dysfunction with BCT could have been due to worry about a cancer recurrence because only a small portion of the breast is excised. However, our study showed although postmenopausal women in BCT group showed less body image distress, they showed more fear of recurrence (82%) in comparison to MRM group (42%). Fear of recurrence has been at the heart of the controversy between surgeons favoring mastectomy versus those advocating a less radical operation. In fact, in the review of Kiebert and associates [63], six out of the eight studies which investigated fear of recurrence and death showed no difference between the two treatment strategies and the remaining two trials found more fear of recurrence after MRM than after BCT. The review of Schover [64] included six studies which produced conflicting results with respect to fear of recurrence; two showed no difference, one favored MRM and three favored BCT.

The importance of the significant other's support in illness recovery is well-documented [65]. Past research indicates that the nature and quality of women's distress and their partners' distress are associated with distress and adjustment during the breast cancer experience [66]. Thus, previous findings suggest that psychosocial interventions that improve both the person with cancer and the partner's social and emotional well-being may have positive effects on QOL [67,68]. The degree of the partner's emotional involvement and understanding of the woman's experience is directly associated with psychological adjustment [69]. In our study women in the BCT group showed more support from their partners than women in MRM, this can be of a special concern in Egypt where human relations and familial bonds are still so strong.

Postmenopausal women in BCT group were more educated (44%) in comparison with 70% illiterates in MRM group. Education can affect the patient decision about treatment a consequently
affect body image or it may directly affect the cognitive appraisal of their new stressful situation. Roland et al. [33] emphasize that women undergoing mastectomy with breast reconstruction and BCT are more likely to be highly educated [36]. On the other hand illiterates may leave the decision of the kind of operative intervention to significant others in their lives, unaware about the later psychological impact on their lives.

In some patients, denial may prevent them from making realistic plans for treatment or other activities in life. Peck [70] suggested that women's use of denial, as a defense mechanism in the immediate post-operative period, may help them to come to terms with their new body image. However, over time, denial is difficult to sustain and patients may be forced to face progressively the reality of breast loss, which may result in loss of self-image satisfaction. In our study we could not relate denial of illness to more body image distress as the percentage of denial in both groups were the same.

Our main concern was to explore the taboo of breast cancer surgical treatment in developing countries as it continues to have a deep impact on both patient's survival and body image disturbances. Physicians working in a limited resources environment may be forced to make decisions contrary to their best medical knowledge because diagnostic and/or treatment resources are lacking. For instance, lack of radiotherapy facilities prevents the use of breast conserving therapy (BCT) [71]. The patients' level of education, fear of recurrence, partner support and other factors may affect the surgical decision making. However it is time to change the concept of relying on age or menopausal status in surgical decision making. Our study demonstrates that prior assumption about body image not being important to post menopausal women in developing countries, is not true.

Body image is an important aspect of the human psyche and is not an issue reserved for developed countries only. Oncology professionals caring for postmenopausal women with breast cancer need to be aware of a woman's preference about appearance and body image at the time of treatment decision making to assist in her choice of treatment and long-term adjustment. They should offer breast conservation to this age group as often as they present it to younger women. Postmenopausal breast cancer cases in developing countries have their concerns about body image and they have the right to be offered a less mutilating form of breast surgery once indicated.

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