Body Image Disturbances in Patients Undergoing Mastectomy for Breast Cancer

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ABSTRACT

BACKGROUND

Body image can be defined as a subjective picture of an individual's own physical appearance established by self-observation and by noticing the reaction of others. Breast cancer and its treatment has been shown to have tremendous impact on the body image of the patients. We wanted to assess the level of body image disturbance in patients undergoing mastectomy for breast cancer and identify the relation between the body image disturbance and measures of psychosocial morbidity and quality of life.

METHODS

35 female patients who had mastectomy for breast cancer were assessed preoperatively, immediately after surgery and 2 months after the surgery. They were administered body image scale questionnaire, HADS (Hospital Anxiety and Depression Scale), General Health Questionnaire (GHQ-12) and WHO QOL BREF.

RESULTS

Our results showed that 24 out of 35 patients (68.5 %) were Body Image Scale positive at the first interview itself. The number of positive patients increased to 27 at the second interview (77.1 %), but this change was not statistically significant and there was no change from second to third visit. Those who were Body Image Scale Positive had significantly higher anxiety, depression and GHQ-12 scores. Those who had a body image disturbance also had a poorer quality of life across all domains.

CONCLUSIONS

This study shows that there is a high level of body image disturbance in patients undergoing mastectomy for breast cancer even before surgery. This high level also contributes significantly to their psychosocial morbidity and also negatively affects their quality of life.

KEYWORDS

Body Image, Anxiety, Depression, Quality of Life, Breast Cancer, Mastectomy

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BACKGROUND

Breast cancer treatment has been revolutionised in the last few decades by tremendous advances in the diagnostic methods as well as the multidisciplinary treatment modalities. Treatment by breast conservation achieves results similar to mastectomy in early cancers. Even then, a fairly large number of mastectomies are being done worldwide. Mastectomies have been considered to be psychologically more distressful than breast conserving procedures and there are studies which point to this.[1,2,3,4,5,6] But there is also published literature which shows that mastectomy and breast conserving procedures have similar psychological morbidity.[7] Dahl et al defines body image as a subjective picture of an individual's own physical appearance established by self-observation and by noticing the reaction of others.[8] It is closely linked to identity, self-esteem, attractiveness, sexual function and social relationship also.[9,10] So there is more to this body image problem than what meets the eye and it is very closely related to self-esteem and social quality of life.

There have not been many studies from this part of the country on the body image disturbance in the mastectomised patients and its relation to their psychological and social morbidity. It is in this context that the present study was undertaken to assess the body image disturbances in carcinoma breast patients undergoing mastectomy in a tertiary care centre in Kerala.

Objectives

1. To assess the level of body image disturbance in patients undergoing mastectomy for breast cancer.
2. To identify the relation between the body image disturbance and measures of psychosocial morbidity and quality of life.

METHODS

This prospective study was conducted at Government Medical College, Kozhikode, a tertiary care teaching hospital. This was conceived as a preliminary study and hence sample size was not calculated. The study was planned for a period of two months with a further follow up period of two months (third visit) and all eligible patients during the two months period were to be enrolled in the study. Thus 35 consecutive female patients attending the Surgery outpatient department with a diagnosis of carcinoma breast were included in the study. Only those patients who underwent mastectomy and received adjuvant therapy at the institution itself were enrolled in the study so that they were available for follow up. No patient was lost for follow up during the study period. These patients were interviewed thrice. First interview was before surgery, after the diagnosis of disease made, but not on the immediate preoperative day. Second interview was done during the post-operative period, once the patient was ambulant and pain free. Third interview was at the end of two months after surgery so that patient recovers reasonably well from the immediate effects of surgery.

Exclusion Criteria

1. Patients who had a history of psychiatric illness.
2. Those who were having advanced metastatic disease with low life expectancy and possibility of cerebral metastasis.
3. Patients who were not willing or capable of answering the questionnaire either due to illness or due to unwillingness.
4. Patients with recurrent carcinoma breast.
5. Patients with bilateral carcinoma breast.

The study was approved by the Hospital Ethical Committee. Informed consent was obtained from all the patients.

Study Tools

Body Image Scale: In this study body image was assessed using 6 item questionnaire described by Jaquilline Goldberg et al.[7] This is a simple tool, easily administered and has been used in mastectomy cases by the author. The responses are on a 4 point scale.

1. Not at all.
2. Not often.
3. Somewhat.
4. Very much.

Responses 3 and 4 are taken as positive responses and 2 or more positive responses were taken as threshold for morbidity. Patients are classified as Body Image Scale Positive and Body Image Scale Negative based on their responses.

In addition all the patients were administered the following tests for psychosocial evaluation at each visit.

1. Hospital Anxiety and Depression Scale[11]: This scale was developed to identify depression and anxiety in patients with medical illness. HADS is a 14-item questionnaire, 7 items regarding anxiety and 7 items regarding depression. Each of them has 4 possible responses scored from 0 to 3. Cut-off score for both anxiety and depression is 8 and the total cut-off score is 16. It has a high inter-rater reliability and validity,[12] has been adapted to Indian population[13] and has been used in assessing the psychological aspects in patients with breast cancer.[3]
2. General Health Questionnaire (GHQ-12): General Health Questionnaire is an instrument widely used to detect psychiatric disorders in medical practice. It assesses the physical health of the individual, as perceived by herself, capacity to carry out one's daily activities, her relationship with environment and society and psychological wellbeing of the individual. The shorter 12-item version of GHQ-12 used in this study has been used in General Health Care settings as well as study of breast cancer patients.[14,15] The responses were recorded on a four-point scale with a Likert type scoring (0, 1, 2, 3).

3. WHO QOL BREF**:** WHO QOL-100 was developed by the WHO QOL group with fifteen international field centres simultaneously in an attempt to develop a quality of life assessment tool that would be applicable cross culturally. However it is too lengthy for practical uses in many instances. WHO QOL-BREF has been developed as valid and reliable alternative to WHO QOL-100.[16,17] It contains 26 items. The first two questions are general in nature and relate to overall quality of life.

The remaining questions are divided into four domains.
Domain 1 - Physical health.
Domain 2 - Psychological.
Domain 3 - Social relationship.
Domain 4 - Environment.

The four domain scores denote an individual's perception of quality of life in each domain. Higher the score, higher the quality of life.

Data obtained was checked for validity, tabulated, all scores at three interviews were calculated. Statistical analysis was done using SPSS-10 software. For data analysis, non-parametric tests were used. Changes in Body Image Status Positivity between the visits was compared with McNemar Test. The scores of psychosocial measures between Body Image Positive and Body Image Negative groups were compared using Mann Whitney U Test. P-value less than 0.05 was taken as significant.

RESULTS

The mean age of study population was 47.46 years (Table 1). The sociodemographic profile of the patients is shown in Table 2. It reveals that 68.6 % of the patients were in the below fifty years age group and almost 90 % were below sixty years. 82.9 % of the patients were from a rural background. 85.7 % from low income group and remaining were from a middle-income group. 88.5 % of our patients were educated up to primary or high school level and only 8.6 % did not receive any formal education. 71.4 % of our patients were married, 14.3 % were widowed, 8.6 % were separated from their husbands and 5.7 % were unmarried. There was no significant difference between Body Image Scale Positive and Body Image Scale Negative groups with regard to their place of residence, socioeconomic status, educational status and marital status. (Pearson Chi Square Test. p value > 0.05). As 62.9 % of our patients were in the age group 40 - 60 years and the sample size was relatively small, the difference in age between body image status positive and negative groups could not be analysed satisfactorily. 51.4 % of our patients had stage 2 disease and 48.6 % had stage 3 disease. 92.4 % of the subjects received some form of chemotherapy. While 37.1 % received it preoperatively as neo-adjuvant chemotherapy followed by postoperative continuation chemotherapy, 55.1 % received it only during the postoperative period.

Our results show that 24 out of 35 patients (68.5 %) had Body Image Scale positive at the first interview itself. The number of positive patients increased to 27 at the second interview (77.1 %), but this change was not statistically significant (Table 3).

Age Range in Years	No. of Subjects (%)
20 - 30	2 (5.7)
31 - 40	8 (22.9)
41 - 50	14 (40)
51 - 60	7 (20)
61 - 70	4 (11.4)
Table 1. Age Distribution of the Patients (N = 35)	
Mean Age (S.D.) 47.46 years (9.71)	

Place of Residence	
Rural	29 (82.9)
Urban	6 (17.1)
Socioeconomic Status	
Low	30 (85.7)
Medium	5 (14.3)
High	0
Educational Status	
Uneducated	3 (8.6)
Primary	22 (62.8)
High School	9 (25.7)
Graduate	1 (2.9)
Marital Status	
Unmarried	2 (5.7)
Married	25 (71.4)
Widow	5 (14.3)
Separated	3 (8.6)
Table 2. Sociodemographic Profile (N = 35)	

	Body Image Scale Status at Second Visit Positive	Negative	Total
Body Image Scale Status at First Visit - Positive	24	0	24
Body Image Scale Status at First Visit - Negative	3	8	11
Total	**27**	**8**	**35**
Table 3. Change in Body Image Scale Status between the First and Second Visits (N = 35)#			
#No significant difference. McNemar Test. p value > 0.05			

	Body Image Scale Status at Third Visit Positive	Negative	Total
Body Image Scale Status at First Visit - Positive	24	0	24
Body Image Scale Status at First Visit - Negative	3	8	11
Total	27	8	35
Table 4. Change in Body Image Status between the First and Third Visits (N = 35)#			
#No significant difference. McNemar Test. p value > 0.05			

Psychosocial Measures	Body Image Scale Status at Third Visit Positive	Negative	U-Value (P-Value)
Mean Scores of Anxiety (HADS)	13.62	1.25	0.000 (0.012)*
Mean Scores of Depression (HADS)	16.4	1.12	0.000 (0.012)*
Mean Scores of GHQ	26.2	9.1	0.000 (0.012)*
Table 5. Analysis of Body Image Status and Psychosocial Measures at Third Visit			
Mann Whitney U test applied;*indicates statistically significant difference at p < 0.05			

WHO QOL-BREF Domains	Body Image Scale Status at Third Visit Positive	Negative	U-Value (P-Value)
Mean scores of WHO QOL BREF Total	50.14	81.1	0.000 (0.012)*
Mean Scores of Domain 1	14.5	23.8	0.000 (0.012)*
Mean Scores of Domain 2	10.4	21.8	0.000 (0.012)*
Mean Scores of Domain 3	6	8.62	0.000 (0.012)*
Mean Scores of Domain 4	19.4	28	0.000 (0.012)*
Table 6. Analysis of Body Image Status and Quality of Life at Third Visit			
Mann Whitney U test applied; *indicates statistically significant difference at p < 0.05			

There was no change in the number between second and third visits (Table 4). Table 5 shows the analysis of the psychosocial measures by HADS and GHQ-12. There is significant difference between those who are Body Image Positive and those who are Body Image Negative in all these measures. Those who are Body Image Scale Positive had significantly higher anxiety and depression scores and GHQ-12 scores. Those who had a body image disturbance also had a poorer Quality of Life across all domains (Table 6).

DISCUSSION

Breasts are important for female beauty and sexuality, constituting the female body image, which consists of self-perception of the individual and the observation of the reaction of others.[10] Body image thus refers to the satisfaction or dissatisfaction of an individual with his or her body.[8] In breast cancer patients, body image may be affected by the presence of tumour and consequent skin changes, breast asymmetry and size, loss of breast due to treatment as well as changes related to oncologic treatment.[18] Our study was conceived as a preliminary study aimed at assessing the severity of the disturbances in body image in mastectomised patients and to find out the effect of these disturbances on some accepted measures of psychosocial morbidity namely anxiety and depression as measured by HADS and GHQ Scores. We also compared the quality of life between those who were body image positive and those who were body image negative.

Our study showed a high level of body image dissatisfaction at the first visit itself to the tune of 68.5 %. JA Goldberg et. al in their study reported that 13 % of their patients had a poor body image even before surgery.[7] The reason for a higher level of body image dissatisfaction in our patients could be attributed to multiple factors. 37.1 % of our patients had a preoperative chemotherapy. Chemotherapy has in fact been suggested to add to patients' body image dissatisfaction in previous studies[19] and would have done so in our patients too. Younger age of our patients also could be a reason for the high level of body image positivity. Age has been found to be contributing factor in body image in many previous studies.[20,21]Our study period was the perioperative period and the first two months after surgery and this could also have led to the high levels of body image dissatisfaction. However there are studies which have shown a very high degree of Body Image disturbances in postoperative patients in the long term also. Guedes et. al found that prevalence of Body image dissatisfaction was 74.8 % after 12 months or more follow up.[18] This value is more or less similar to our levels of early morbidity. Rezaei et al have found that those who did not receive a multi-professional follow up reported significant level of negative body image than others.[22] This underlines the importance of early identification of Body image disturbance and the scope for psychological intervention.

Our study showed that those patients who had BIS (Body Image Scale) positivity had a significantly high level of anxiety and depression as measured by HADS. Literature shows that Body image concerns have been significantly associated with psychological symptoms of anxiety, depression, fatigue and fear of recurrence.[20] The fact that body image is an important factor in anxiety and depression has been well documented in other subsets of population also apart from cancer patients.[23] GHQ-12 measures psychiatric dysfunction in three domains, social dysfunction, anxiety and loss of confidence and is a general measure of psychiatric well-being.[24] Body image is closely related to social dysfunction and loss of confidence and as expected we found that in our patients body image positive group had statistically significant higher GHQ-12 score.

Our study shows that quality of life scores as measured by WHO QOL-BREF are significantly low in the body image positive group. This was observed across all the domains (physical, psychological, social and environmental) and total scores. Body image has been very closely linked to the quality of life in published literature. A negative body image can seriously impair the psychosocial wellbeing and quality of life of individuals.[25] Nayir et. al in a community based study found that body image in individuals above 15 years was closely related to QOL in all sub domains.[26] Türk and Meryem Yılmaz in their study showed that mastectomy has a negative impact on body image and QOL of women and there was a strong positive correlation between body image and QOL.[27] Wu et al have reported that Body Image Status was a predictor of every item and domain in the WHO QOL-BREF.[28] They concluded that Body image was predictive of the QOL of breast cancer patients and that dynamic changes of body image and QOL would be useful for shared decision-making regarding surgery in breast cancer patients.

Thus, to conclude, our study has shown that there is a high level of body image disturbance in patients undergoing mastectomy for breast cancer and this high level of body image disturbance contributed to their psychosocial morbidity in terms of HADS and GHQ scores and also contributed to a lower quality of life. Body image questionnaires thus should be made a regular part of the psychosocial assessment of breast cancer patients to identify patients who need more intensive psychological support and intervention as part of holistic management of these patients.

CONCLUSIONS

This study shows that there is a high level of body image disturbance in patients undergoing mastectomy for breast cancer even before surgery. This high level also contributes significantly to their psychosocial morbidity and also negatively affects their quality of life.

Data sharing statement provided by the authors is available with the full text of this article at jebmh.com.

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