

Effect of Breast Surgeries on the Mental Health and Body Image Dissatisfaction in Post-Surgical (MRM) Patients

B. G. Rahul^{1*}, G. Balamaddaiah²

¹Associate Professor of General Surgery, Department of General Surgery, Viswabharathi Medical College, Kurnool

²Consultant Surgeon, RR Hospital, Kurnool

Received: 25-12-2023 / Revised: 23-01-2024 / Accepted: 26-02-2024

Corresponding Author: Dr. B. G. Rahul

Conflict of interest: Nil

Abstract:

Background: Malignant tumours involving Breast affects the physique and psychology of women right from its occurrence and diagnosis. Women undergo emotional and psychological trauma in addition to the suffering from pain and energy draining therapies adopted in its treatment. The body image is also affected in such women that will add upon the psychological trauma.

Aim of the Study: To assess the prevalence of psychological conditions and body image disturbances in Breast malignancy survivors following modified radical mastectomy (MRM).

Methods: A cross-sectional study undertaken at a tertiary care Hospital of Andhra Pradesh including 42 women who survived malignancy of the Breast following MRM during the follow up period. Demographic data was recorded. Depression, Anxiety and stress in the patients were assessed by using the Depression Anxiety and Stress Scale (DASS-21). A 10 item Body Image dissatisfaction scale was used. All the data was analysed using standard statistical methods.

Results: The mean age was 43.11 ± 3.15 years. The mean duration required to complete the treatment protocol in this study was 11.55 ± 2.45 months. Majority of the patients reported to the Hospital late in their III rd stage (38.09%). The total rate of depression was 73.80%. The total rate of Anxiety was 50% in this study. The total prevalence of stress was 22 (52.38%). The total BID score was 50%.

Conclusions: Post MRM patients of Breast malignancies suffer from depression, anxiety and stress in addition to Body image dissatisfaction. Hence every MRM patient should be evaluated properly for psychiatric illnesses and also Body image dissatisfaction. Suitable psychotherapy methods should be initiated as early as possible to avoid grave consequences leading to suicide.

Keywords: Breast tumors, Psychiatric illnesses, anxiety neurosis, depression and women.

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Worldwide malignant tumours of the Breast are common irrespective of the country, ethnicity or living habits. [1] Early diagnosis, awareness, availability of high end surgical methods, radiation techniques and chemotherapeutic regimens the survival rate in these patients is increasing every decade. [2] The treatment schedules for malignant tumours of the breast include surgery, chemotherapy, radiotherapy, and hormonal tablets over prolonged periods. [3, 4]

During the follow up many patients are affected by pain and psychological distress. [5] Medical treatment used during the follow up period is associated with side effects, anxiety of death, economic failure. [6] Women see their image and assess and compare with other's body image; loss of breast tissue induces negative thoughts in their mind and makes them to lose their personal view of their

body image. [7] Other areas of loss of body image occurs due to chemotherapy resulting in loss of hair, luster of skin, weight loss or gain and Treatment procedures such as chemotherapy, surgery, and severe scarring. [8] In women with breast surgeries lose their self-dignity, self-esteem, and their identity. [9] In India also the prevalence of psychiatric illnesses in women with post mastectomies is somewhere between 03.25%. [10]

By understanding the body image issues and psychiatric diseases occurring in post mastectomy patients will help the surgeons to understand and develop a holistic approach in the treatment of malignant tumours of the Breast. [11] The present study in this context was aimed to assess the psychological conditions and body image disturbances in Breast malignancy survivors following modified radical mastectomy (MRM).

Materials:

Period of Study: Jan 2022 to June 2023

Type of Study: A descriptive-analytical cross-sectional study

Institute of Study: Viswabharathi Medical College, Kurnool, Andhra Pradesh.

42 women survivors from modified radical mastectomy treated at this tertiary care Hospital were included. An institution ethics committee approval was obtained and consent form was used in a data collecting proforma.

Inclusion criteria:

Women in follow up of post mastectomy surgery were included. Patients aged between 25 and 65 years were included. Patients' undergone treatment with radiotherapy, chemotherapy and immunotherapy were included. Patients no distant metastases were included. Patients with good family support were included. Patients with of all walks of life and professions were included.

Exclusion Criteria:

Patients with diabetes mellitus, other hormonal diseases were excluded. Patients with distant metastases were excluded. Patients not willing to join the study were excluded. Patients with recurrence in breast malignancies were excluded. Patients already undergoing treatment for psychiatric illnesses were excluded. All the patients' demographic details were collected in a proforma. All the patients were chosen as per the inclusion criteria. All the patients were examined by the same psychiatrist for evidence of mental illnesses. The MRD records of the patients were collected to confirm their diagnosis, time of diagnosis, type of treatment, and disease stage.

MINI 6·0·0 version was used to identify the Psychiatric comorbidities. [12]. Psychological distress was measured using the 21-item Depression, Anxiety, and Stress Scale (DASS-21), [13] and 10-item Body Image Scale was used to measure the (Body Image Distress) BID. [14] All the patients were given psycho-education by

psychiatrists after the assessment. Those who had psychiatric illnesses were treated accordingly.

Statistical Analysis:

Orthogonal polynomial coefficients were calculated recursively by the method of Fisher and Yates for linear trend testing. The significance level used to test linear trends was set at 99% (i.e. $P=0.01$ threshold). Odds ratios (ORs) and their 95% confidence intervals (CIs) were obtained from multivariable logistic regression analysis.

Results

All the 42 women were included in the study and there were no dropouts. 05 (11.90%) patients were in the age group of 25 to 35 years, 08 (19.04%) patients were in the age group of 36 to 45 years, 18 (42.85%) patients were in the age group of 46 to 55 years, and 11 (26.19%) patients were in the age group of 56 to 65 years. The mean age was 43.11 ± 3.15 years. (Table 1) Patient's educational status was noted; 09 (21.42%) were educated below inter, 15 (35.71%) were educated up to inter, 13 (30.95%) were graduates, and 05 (11.90%) were educated post graduates. 14 (33.33%) were house wives, 17 (40.47%) were labourers, 11 (26.19%) were office goers. 35 (83.33%) were married and 07 (16.66) were unmarried. 17 (40.47%) belonged to low socio-economy group, 19 (45.23%) belonged to middle income group, and 06(14.28%) belonged to high socio-economy group.

Family history of Breast malignancies was present in 20 (47.6 %) and not present in 22 (52.38%). 30 (71.42%) patients were pre-menopausal age group and 12 (28.57%) were in the menopausal group. (Table 1) Among the 42 patients in 04 (9.52%) completed the treatment protocol in 0 to 12 months, 09 (21.42%) completed the treatment protocol in 13 to 24 months, 14 (33.33%) completed the treatment protocol in 25 to 36 months, and 15 (35.71%) completed the treatment protocol in above 35 months. (Table 1) The mean duration required to complete the treatment protocol in this study was 11.55 ± 2.45 months. Out of 42 patients 05 (11.90%) were in stage I, 21 (50%) were in stage II, and 16 (38.09%) were in stage IV. (Table 1)

Table 1: Showing the Demographic details of the subjects (n=42)

Observation	Number	Percentage	P value
Age			
25 TO 35	05	11.90	
36 TO 45	08	19.04	
46 TO 55	18	42.85	
56 TO 65	11	26.19	
Education			
Below Inter	09	21.42	
Inter	15	35.71	
Graduate	13	30.95	
Post graduate	05	11.90	

Occupation			
House wife	14	33.33	
Labourer	17	40.47	
Office goer	11	26.19	
Marital status			
Yes	35	83.33	
No	07	16.66	
Socio-economy'			
Low	17	40.47	
Middle	19	45.23	
High	06	14.28	
Family History			
Yes	20	47.61	
No	22	52.38	
Menstrual status			
Yes	30	71.42	
Menopause	12	28.57	
Time of completion of treatment			
06 months to 12 months	04	09.52	
13 to 24 months	09	21.42	
25 to 36 months	14	33.33	
above 36 months	15	35.71	
Stage of malignancy			
Stage I	05	11.90	
Stage II	21	50.00	
Stage III	16	38.09	

Among the 42 patients 18 (%), Among the 42 subjects selected in this study 11 (26.19%) were of normal mental health. Depression was mild in 16.66%, moderate in 30.95%, severe in 14.28% women, and very severe in 11.90% women. The total rate of depression was 73.80%.

Depressions of all grades were found in all age groups. There was no significant relation between the status of menstrual phase and the psychiatric illnesses identified; (P- value >0.05), (Table 1). The staging of the disease at the time of diagnosis and the time taken for completion of the entire treatment schedule correlated well with the incidence of depression and was statistically significant; (p<0.05). (Table2) The total rate of Anxiety was 50% in this study. 09.52% patients had mild severity, followed by moderate in 19.04%, severe in 16.66%, very severe in 04.76% patients. There was no statistical correlation

between the age, menstrual phase, socio economic status, education status, and time elapsed since treatment completion. But the stages of the disease and time lapse were significant in causing anxiety in this study. There was no significant difference was observed in anxiety scores between the premenopausal and postmenopausal groups. (Table 2)

The total prevalence of stress was 22 (52.38%) of patients in this study. The stress was mild in 16.66%, moderate in 11.90%, severe in 09.52% and very severe in 09.52% of the patients. Stress was not correlated with age, menstrual phase, education, economic status. (P value >0.05) But it was significant with the time lapse occurred in completion of the treatment protocol and staging of the disease. The Total BID score was 50% in the study. (Table 2)

Table 2: Showing the DASS-21 score and BID scores in the subjects (n=42)

Severity	Depression	Anxiety	Stress	BID score
Mild	07 (16.66%)	04 (09.52%)	06 (14.28%)	21 (50%)
Moderate	13 (30.95%)	08 (19.04%)	07 (16.66%)	
Severe	06 (14.28%)	07 (16.66%)	05 (11.90%)	
Very severe	05 (11.90%)	02 (04.76%)	04 (09.52%)	
Total Abnormal	31 (73.80%)	21 (50%)	22 (52.38%)	
Normal	11 (26.19%)			P value: 0.001

Discussion

The present study was conducted to study was conducted to assess the prevalence of psychological

conditions and body image disturbances in Breast malignancy survivors following modified radical mastectomy (MRM). 18 (42.85%) patients were in

the age group of 46 to 55 years, and 11 (26.19%) patients were in the age group of 56 to 65 years. The mean age was 43.11 ± 3.15 years. (Table 1) The higher mean age could be due to more number of women are affected in the age groups between 46 and 65 years. [15] The mean duration required to complete the treatment protocol in this study was 11.55 ± 2.45 months. This may be due to preferred treatment protocols by the Hospital tumour board specialists. [16] The patients included in this study had completed the treatment 6 months prior to the data collection. Out of 42 patients 05 (11.90%) were in stage I, 21 (50%) were in stage II, and 16 (38.09%) were in stage III (Table 1) Majority of the patients reported to the Hospital late in their III rd stage (38.09%) of malignancy which could be due to lack of awareness and economic backwardness in this area. [17]

Most patients were diagnosed at the third stage of malignancy (53.9%).

In a similar study from India it was reported that the delay in reporting of patients could be due to anxiety and fear; in their study the mean time of reporting was 6.13 months. [18] In this study the total rate of depression was 73.80%. The staging of the disease at the time of diagnosis and the time taken for completion of the entire treatment schedule correlated well with the incidence of depression and was statistically significant; ($p < 0.05$). (Table 2) The total rate of Anxiety was 50% in this study. There was no statistical correlation between the age, menstrual phase, socio economic status, education status, and time elapsed since treatment completion. But the stages of the disease and time lapse were significant in causing anxiety in this study. (Table 2)

The total prevalence of stress was 22 (52.38%) of patients in this study. Stress was not correlated with age, menstrual phase, education, economic status. (P value > 0.05) But it was significant with the time lapse occurred in completion of the treatment protocol and staging of the disease. The Total BID score was 50% in the study. (Table 2) The major factors' contributing to the psychiatric illnesses in post MRM patients in this study was economic backwardness in the affected populations. Similar views were expressed by many authors from their studies. [19,20] The prevalence of psychiatric illnesses reported in this study are comparatively higher than few other studies; they reported lower rates i.e., depression (22%), anxiety (19%), and stress. [21] Such disparity could be explained by the fact that different measuring scales were used to assess the mental status of the patients. In another study by Khan, all the three scores of depression, anxiety and stress were clubbed. [22] Psychological distress scores were not correlated with age, education status, marital status, socio-economic status and no significant difference in relation to

the pre or post-menopausal status of the patients. [16] In this study also there was no correlation between the psychiatric illnesses and menopausal status. These findings indicate that psychological issues remain unresolved over time despite a lower prevalence rate. Body image disturbances due to MRM were observed in 50% of the patients in this study. In similar studies by Przewdziecki A, Alagizy HA and Falk Dahl CA [19,23,24] the authors documented sustained body image difficulties after surgery and beyond. Majority of women in this study complained of body image issues which suggested a high level of BID in this study. In fact the BID scales in this study were more than the BID scales reported by Hopwood et al [16] from their study. This could be due to the fact that our patients had much more time after completion of treatment protocol than in Hopwood series. [16] Such a high scale of BID score could be attributed to the fact that the perception of femininity was preserved with breast conservation, and MRM potentially brings disfiguring changes to their body image.

Conclusions

Post MRM patients of Breast malignancies suffer from depression, anxiety and stress in addition to Body image dissatisfaction. Hence every MRM patient should be evaluated properly for psychiatric illnesses and also Body image dissatisfaction. Suitable psychotherapy methods should be initiated as early as possible to avoid grave consequences leading to suicide.

References

1. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin.* 2018; 68:394–424.
2. Malvia S, Bagadi SA, Dubey US, Saxena S. Epidemiology of breast cancer in Indian women. *Asia-Pac J Clin Oncol.* 2017; 13:289–295.
3. Chen C-L, Liao M-N, Chen S-C, Chan P-L, Chen S-C. Body image and its predictors in breast cancer patients receiving surgery. *Cancer Nurs.* 2012; 35:E10–E16.
4. Sherman KA, Woon S, French J, Elder E. Body image and psychological distress in nipple-sparing mastectomy: the roles of self-compassion and appearance investment. *Psychooncology.* 2017; 26:337–345.
5. Thakur M, Sharma R, Mishra AK, Singh KR. Prevalence and psychobiological correlates of depression among breast cancer patients. *Indian J Surg Oncol.* 2021; 12:251–257.
6. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics

- 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin.* 2018; 68:394–424.
7. Malvia S, Bagadi SA, Dubey US, Saxena S. Epidemiology of breast cancer in Indian women. *Asia-Pac J Clin Oncol.* 2017; 13:289–295.
 8. Chen C-L, Liao M-N, Chen S-C, Chan P-L, Chen S-C. Body image and its predictors in breast cancer patients receiving surgery. *Cancer Nurs.* 2012; 35:E10–E16.
 4. Sherman KA, Woon S, French J, Elder E. Body image and psychological distress in nipple-sparing mastectomy: the roles of self-compassion and appearance investment. *Psychooncology.* 2017; 26:337–345.
 9. Thakur M, Sharma R, Mishra AK, Singh KR. Prevalence and psychobiological correlates of depression among breast cancer patients. *Indian J Surg Oncol.* 2021; 12:251–257.
 10. Thakur M, Gupta B, Kumar R, Mishra AK, Gupta S, Kar SK. Depression among women diagnosed with breast cancer: a study from North India. *Indian J Medic Paediatr Oncol.* 2019; 40:347–352.
 11. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin.* 2018; 68:394–424.
 12. Malvia S, Bagadi SA, Dubey US, Saxena S. Epidemiology of breast cancer in Indian women. *Asia-Pac J Clin Oncol.* 2017; 13:289–295.
 13. Chen C-L, Liao M-N, Chen S-C, Chan P-L, Chen S-C. Body image and its predictors in breast cancer patients receiving surgery. *Cancer Nurs.* 2012; 35:E10–E16.
 14. Sherman KA, Woon S, French J, Elder E. Body image and psychological distress in nipple-sparing mastectomy: the roles of self-compassion and appearance investment. *Psychooncology.* 2017; 26:337–45.
 15. Thakur M, Sharma R, Mishra AK, Singh KR. Prevalence and psychobiological correlates of depression among breast cancer patients. *Indian J Surg Oncol.* 2021; 12:251–257.
 16. Hopwood P, Fletcher I, Lee A, Al Ghazal S. A body image scale for use with cancer patients. *Eur J Cancer.* 2001; 37:189–197.
 17. Shreyamsa M, Singh D, Ramakant P, et al. Barriers to timely diagnosis and management of breast cancer: observations from a tertiary referral center in resource poor setting. *Indian J Surg Oncol.* 2020; 11:287–293.
 18. Shreyamsa M, Singh D, Ramakant P, et al. Barriers to timely diagnosis and management of breast cancer: observations from a tertiary referral center in resource poor setting. *Indian J Surg Oncol.* 2020; 11:287–293.
 19. Przewdziecki A, Alcorso J, Sherman KA. My Changed Body: Background, development and acceptability of a self-compassion based writing activity for female survivors of breast cancer. *Patient Educ Couns.* 2016; 99:870–874.
 20. Schreiber JA. Image of God: effect on coping and psychospiritual outcomes in early breast cancer survivors. *Oncol Nurs Forum.* 2011; 38:293–301.
 21. Thakur M, Gupta B, Kumar R, Mishra AK, Gupta S, Kar SK. Depression among women diagnosed with breast cancer: a study from North India. *Indian J Medic Paediatr Oncol.* 2019; 40:347–352.
 22. Khan F, Amatya B, Pallant JF, Rajapaksa I. Factors associated with long-term functional outcomes and psychological sequelae in women after breast cancer. *Breast.* 2012; 21:314–320.
 23. Alagizy HA, Soltan MR, Soliman SS, Hegazy NN, Gohar SF. Anxiety, depression and perceived stress among breast cancer patients: single institute experience. *Middle East Curr Psychiatry.* 2020; 27:29.
 24. Falk Dahl CA, Reinertsen KV, Nesvold I-L, Fosså SD, Dahl AA. A study of body image in long-term breast cancer survivors. *Cancer.* 2010; 116:3549–3557.