Original Article

Depression in Post-Mastectomy Breast Cancer Patients

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Objective: To compare the frequency and association of depression in post-mastectomy breast cancer patients.

Methods: Two Fifty consecutive outdoor breast cancer patients were included in the study that had undergone mastectomy in the preceding 2-4weeks. They were compared with physically healthy matched females who were accompanying the patients suffering from various cancers to the out patient department of oncology units. A semi structured interview and Present State Examination (PSE) were administered to assess symptomatology. Patients were diagnosed as suffering from depression on the basis of Diagnostic and Statistical Manual of Mental disorders; fourth edition (DSM-|V). The Hamilton Rating Scale for Depression (HRDS) was administered to the positive cases in order to determine the severity of the depressive symptoms.

Results: Depressive disorder was found in 20% of post mastectomy breast cancer patients in comparison to 16 % of control group. Depressive disorder was more prevalent (88.8%) in breast cancer females who were younger than their husbands by 0-4 years and those women who had nuclear family system. Among the control group (caregivers/ attendants), depressive disorder was more prevalent (87%) among mothers and sisters of cancer patients (p<O.05).

Conclusion: The patients who are suffering from breast cancer should bescreened for depressive disorder and intervention must be given wherever possible, Moreover care givers /attendants of patients suffering from various cancers and other life threatening illnesses should also be assessed and managed for depressive disorder as a part of multi modal management plan to improve the level of care giving behavior.

Keywords: Breast cancer, depression, post-mastectomy, care givers.

Introduction

Worldwide more than half a million new cases of breast cancer are reported each year.[1] In Pakistan breast cancer was reported to be the commonest malignancy in women and comprises more than 24% of all female cancers.[2] Medical literature suggests that genetic, endocrine and environmental factors may be involved in the initiation and promotion of breast cancer.[1,3,4,5]

Females with breast cancer most commonly present with lump in their breasts[6] Other presenting complaints may be nipple discharge, ulceration and symptoms suggestive of meta stases to other organs.[6.7]A multi disciplinary team consisting of surgeon, radiologist and pathologist perform assessment of the women with suspected breast cancer.[8] Breast cancer is treated by radiotherapy, chemotherapy and hormonal therapy.[9]

Numerous studies have reported psychiatric disturbances in women with breast cancer. Hugh son et al found that one month after mastectomy, more than one third of patients reported depression, anxiety or social dysfunctions and more than half of the patients complained of lethargy or inability to work.[10]Othercommon psychiatric manifestations reported are somatization, hostility, sexual dysfunctions, problems with body image and disturbances in sleep and eatin.[11,12] ln a retrospective study, Fallow field et at examined 101 early breast cancer patients after a mean interval of 16.7 months of surgery. Of these, 53 patients were treated with mastectomy. These patients were administrated Patient State Examination (PSE) followed by Diagnostic and Statistical Manual of Mental Disorders; third edition (DSM-lll) criteria for mood disturbance. 2l% of these patients were identified as suffering from depressive disordered.[13] ln a prospective study, same authors examined 154 mastectomy patients along with lumpectomy patients with stage I and ll breast cancer. ln this study serial assessments were made in which PSE was administered along with Hospital Anxiety and Depression Scale (HADS), Rotterdam Symptoms Check List (RSCL) and Spielberger State Trait Anxiety

Inventory. After mastectomy at two weeks, 3months and it 12 months, frequency of depression was 29%,27% and 21%respectively.[14] Aragona et al.reported major depression in only 2% of un-treatedearly 149 breast cancer patients prior to any surgical intervention. They used the instruments similar to the present study.[15] By using HADS, Pinder et al found12% of admitted patients with long history of advanced inoperable breast cancer recorded high score on depression.[16] lzhar el al reported that more than 80% of admitted female cancer patients had a score above the cut-off point on depression sub-scale of HADS.[17] ln an another study, Haider diagnosed depression of moderate to severe intensity in 90% of indoor cancer patients as compared to 67% of control group suffering from other physical diseases. Females with breast cancer reported the highest mean depression scores as compared to the patients having cancer in other parts of the body.[18]lt was summarized by Aragona et al that depression constituted a part of natural history of breast cancer as it occurred even before the awareness of the diagnosis.[15]

Diagnosis of psychiatric illnesses in breast cancer patients showed a very low concordance rate of only 23% between the oncologists and psychiatrists. lt was concluded by Pendlebury et al that the oncologists frequently under-diagnosedand under-estimated the frequency and severity of depression in breast cancer women.[19] It was commented in many studies that depression and psychiatric morbidity in breast cancer patients was mostly associated with factors like age, marital status, personality, coping style, social class, performance status, physical complaints, experiencing of stressful conditions in the past, emotional and social support system, giving information about the disease and its treatment etc.[11'20'21'22'23]

In care givers of cancer patients the psychiatric disturbances are reported to be17%-33%.[24,25,26] Kurtz et at reported in their study that younger the age of cancer patients more the care givers tended to be depressed.[27] Other studies showed that the presence of pain, sleep impairment, other physical symptoms, limitations of activity of daily living, lower income, living only with the patients associated with high level of anxiety and depression in the care givers.[25,26'28,2s,30,31,32,33,34] Mastectomy in patients with breast cancer can severely affect their body esteem. It also changes the emotions and attitudes of patients toward their body and causes psychological reactions such as depression, anxiety, and stress.[35] The present study is being undertaken to highlight the frequency of depressive disorder in post-mastectomy breast cancer patients in Pakistani setting, which should help to develop better awareness of this frequently neglected complication of breast cancer.

Methods

This was a hospital based case control study which was conducted in the Department of Radiotherapy and Oncology, Mayo Hospital and the Institute of Nuclear Medicine and Oncology (INMOL), Lahore from August 2002 to April2003. 50 consecutive outdoor post mastectomy breast cancer patients, with the age range of 30 years and above, before the administration of radiotherapy and chemotherapy were allocated to group A and 50 female attendants of various cancer patients attending the outdoor, matched with age and socio-economic status were included in group B, which is a control group. Subjects suffering from physical illnesses and those who had past psychiatric illnesses were excluded from both the groups. ln addition to these, patients suffering from non-malignant diseases of breast and those breast cancer patients who were treated by methods other than mastectomy were also excluded from group A. Patients of both groups were given semi-structured psychiatric interview employing Urdu version of Present State Examination (PSE) (Wing et al 1974).[36]Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV)[37]was used for the diagnosis of depression and Hamilton Rating Scale for Depression (HRSD) (Himilton 1967)[38]was administered to positive cases to measure the severity of depressive symptoms. PSE covers the patient's symptoms during the previous four weeks. It consists of 140 items and each symptom is rated on 3-4 point scale. Its inter-rater reliability for symptoms is+0.77. HRSD is rated on either 5-point scale or 3-point scale, its inter-rater reliability is +0.90 with a correlation of 0.96.

Hospital record of each study group patient was examined and brief history from woman of both groups was obtained. Written informed consent was obtained from the subjects of both groups. The collected data was entered on SPSS Version 11 for analysis. Simple descriptive statistics was used to analyze the demographic variables (age and socioeconomic status). Frequency and percentage of depression and its severity was calculated in both groups. For the comparison of the two groups regarding the severity of depression-test was used. A p-value of equal to or less than 0.05 was considered as significant.

Results

Mean age of patients of group A was 48.16 years, SD 10.824 with age range being 35-70 years. Mean age of the subjects of group B was 48.18 years, SD10.817 with the age range of 35-70 years.

Out of 50 patients, 10(20%) patients of group A were diagnosed to be suffering from depressive disorder, whereas of group B, 8 (16%) subjects were also found to be depressed (Z=0.52;p>0.05). Out of the 10 depressed patients of group A, 8patients secured a score of 14 or above on HRSD.[38] Severity of depression among these patients was moderate or severe. In comparison, 3 subjects of group B scored in the range of moderate of severe depression. This difference was statistically significant (Z=1.84; p<0.05). This means that higher proportion of breast cancer patients suffered with more severe depression as compared to the attendants. Among the breast cancer females, depressive disorder was significantly associated with small age difference (0-4 years) with their husbands and with nuclear family system. **(Table1,2)** Depressive disorder was significantly more prevalent in women of both groups who were house wives, belonging to lowest category of income, got married at an age younger than 30 years and those women who had children five or less in number. Depressive disorder was unrelated to age, place of residence, marital status and education of the cases and controls. Of the total of 8 depressed subjects of group B,4 (50%) attendants were accompanying their adult daughters with cancer,3 (37.5%) depressed attendants were accompanying their sisters with cancer and one depressed attendant was accompanying her young son with cancer. These figures reveal that depression was more common among those female attendants or care givers who were accompanying their daughters or sisters suffering with various cancers. **(Table3)**

Table-1: Distribution of age difference with husband.

Age Difference (Years)	Group A* (N=48)			Group B* (N=48)		
	Depressed No%	Non- Depresses No%	Total No. Patients No%	Depressed No. %	Non- Depresses No. %	Total No. Patients No.%
0-4	8 (88.8)**	18 (46.1)	26 (54.1)	2 (28.5)**	19 (46.3)	21 (43.7)
5-9	0 (0)	11 (28.2)	11 (22.9)	2 (28.5)	11 (26.8)	13 (27.0)
10-14	0 (0)	6 (15.3)	6 (12.5)	3 (42.8)	10 (24.3)	13 (27.0)
15-19	1 (11.1)	2 (5.1)	3(6.2)	0 (0)	0 (0)	0 (0)
>20	0 (0)	2 (5.1)	2 (4.1)	0 (0)	1 (2.4)	1 (2.0)
Total	9	39	48	7	41	18

** = Out of groups A & B, 2 were unmarried in each group / ** = P<0.05*

Table-2: Distribution of family system.

Age Family System	Group A* (N=48)			Group B* (N=48)		
	Depressed No%	Non- Depresses No%	Total No. Patients No%	Depressed No. %	Non- Depresses No. %	Total No. Patients No.%
Nuclear	9 (90)**	28 (70)	37(74)	4(50)	24(57.1)	28(56)
Estended	1 (10)	12 (30)	13 (26)	4(50)	18(42.8)	22(44)
Total	10	40	50	8	42	50

** = Out of groups A & B, 2 were unmarried in each group / ** = P<0.05*

Table-1: Distribution of depression in attendants according to the nature of their relationship with the patients

Attendant- Patient Relationship		Group B Subjects (N=50)		
Attendants	Patients	Depressed No. %	Non- Depresses No%	Total No. Patients No%
Mother	Daughter	4(50)	3(7.1)	7(14)
Mother	Son	1(12.5)	3(7.1)	4(8)
Daughter	Mother	0(0)	4.(9.5)	4(8)
Daughter	Father	0(0)	0(0)	0(0)
Sister*	Sister	3.(37.5)	15(35.7)	18(36)
Sister	Brother	0(0)	1(2.3)	1(2)
Attendant	Cousion	0(0)	4.(9.5)	4(8)
Attemdant	Relatives	0(0)	12(28.5)	12(24)
Total		8	42	50

Discussion

Findings of present study are closer to study conducted by Fallow field et al who reported depressive disorder in 21% of post-mastectomy patients but differs from present study in the way that it was a retrospective study and assessment was made after a mean interval of 16.7 months after surgery. [13] The prospective study by Fallow field differs from the present study in the sense that in it multiple serial assessments were made, sample size was quite large and three types of self-rating instruments were used.[14]

The diagnosing of major depression in only 20% of breast cancer patients in Aragona's study may be attributed to the fact that his patients remained untreated and had to undergo the distress of surgery and loss of a body part.[15]

Pinder's study differs from the present study in the way that it assessed the patients with long history of advanced inoperable stage of disease, many patients were admitted, and different type of instrument used. Unexpectedly, the researchers diagnosed depression in only 12% of patients, which might be a result of adjustment in these women because of long history of the disease.[16]

With reference to severity of depression, the finding of this study is very close to that of the study conducted by Haider, who reported moderate and severe depression in 90% of cancer patients. This study differs from the present study in respect that the patients were in the advanced stage of cancer, these patients were admitted in the oncology department and were receiving che motherapy, and 314 of the patients were those who were suffering from cancers other than breast malignancy.[18]The present study shows clearly that more than 4/5 of depressed breast cancer patients were younger than their husbands by 0-4 years as compared to little more than 1/4 of depressed care givers of various cancer patients. This finding can possibly be explained by the fact that in our society smaller age difference with husbands causes the natural difference of opinion between the couples to come to surface more readily. This causes more conflicts and stressful relationship with husbands. Such stressful interpersonal relationships with their husbands in the past are more likely to develop depression when they are faced with new difficult situation like breast cancer, though this explanation is in conformity with the study by Maunsell at al [21], it needs further work to reach to conclusion. This study also shows that majority of depressed breast cancer patients had nuclear family system as compared to depressed attendants of control group. The plausible explanation of this finding could be that in nuclear family system there is lack of adequate social and emotional support from the parents and siblings of breast cancer patients. This explanation is supported by other studies.[22,23]

The present study also highlights the frequency of depressive disorders in care givers of the patients suffering from various cancer was nearly equal to the frequency of depressive disorder in breast cancer patients, though in majority of these attendants the severity of depressive symptoms was mild. This finding is in conformity to many studies.[24'25,26]

Conclusion

The present study shows that 2 to 4 weeks after mastectomy one out of five breast cancer patients were suffering from depressive disorder in comparison to one out of six attendants of patients suffering from various cancers.The present study suggest that when the physicians and surgeons assess the breast cancer patients they must keep the smaller age differences of these patients with their husbands and nuclear family system in mind as these two factors may predict higher prevalence of depression in this population. It is also suggested that along with cancer patients the attendants /care givers must be assessed for depression. Due to mild severity of depression in care givers it is quite easy to treat them that may improve the level of their care giving behavior.

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