ORIGINAL RESEARCH

Evaluation of psychiatric illness among breast cancer patients

Dr. Parvaiz Alam[1], Dr. Mini Sharma[2], Dr. Shiv Prasad[3], Dr. Shaista Mehtab Choudhary[4]

[1]Senior Resident, [3]Professor and Head of Department, Department of Psychiatry, Lady Hardinge Medical College, New Delhi, India
[2]Assistant Professor, RVRS Government Medical College, Rajasthan, India
[4]Postgraduate Resident, Department of Obstetrics and Gynaecology, GMC Jammu, India

Corresponding Author
Dr. Shaista Mehtab Choudhary
Postgraduate Resident, Department of Obstetrics and Gynaecology, GMC Jammu, India

Received: 05 November, 2023 Accepted: 10 December, 2023

ABSTRACT

Background: The present study was conducted for evaluating psychiatric illness among breast cancer patients. **Materials & methods:** A total of 200 breast cancer patients were enrolled in the present study. In the questionnaire two sections were included: Demographic data, PHQ-2 and GAD-2 scales. The Patient Health Questionnaire-2 (PHQ-2) and the Generalized Anxiety Disorder-2 (GAD-2) questionnaire were produced as ultra-brief screening instruments for depression and anxiety, suitable for use in epidemiological studies. MINI scale was also used. Mini-International Neuropsychiatric Interview (MINI) is a structured diagnostic interview schedule for diagnosing psychiatric problems based on Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) and International Classification of Diseases-10. **Results:** A total of 200 breast cancer patients were analyzed. Among these breast cancer patients, psychiatric illness was seen in 79 patients. Hence; psychiatric illness was present in 39.5 percent of the patients with breast cancer. Anxiety, depression, Stress/adjustment disorder and Somatoform /Conversion Disorder was present in 14 percent, 12.5 percent, 7.5 percent and 5.5 percent of the patients respectively. **Conclusion:** Breast cancer patients are in high risk for developing psychiatric illness. Early identification of predictive and risk factors might contribute in decreasing burden of psychiatric illness among breast cancer patients.

Key words: Psychiatric illness, Breast cancer

INTRODUCTION

Being characterized by six major hallmarks, carcinogenesis might occur in every cell, tissue, and organ, leading to the pathological alternations that result in a vast number of cancers. The major mechanisms that enable its progression include evasion of apoptosis, limitless capacity to divide, enhanced angiogenesis, resistance to anti-growth signals and induction of own growth signals, as well as the capacity to metastasize.[1, 2]

Breast cancer (BC) is the commonest malignancy among women globally. It has now surpassed lung cancer as the leading cause of global cancer incidence in 2020, with an estimated 2.3 million new cases, representing 11.7% of all cancer cases. As per the Globocan data 2020, in India, BC accounted for 13.5% (178361) of all cancer cases and 10.6% (90408) of all deaths with a cumulative risk of 2.81.[3, 4] It is a challenging disease that induces a crisis in the patient's psychological balance and is perceived as a disaster in the eyes of the patient and his/her family, generating huge impacts in terms of both physical and emotional aspects with the feelings of fear, hopelessness, guilt, desperation, and being abandoned. Behavioral factors play a part in the development of cancer, but psychiatric complications may emerge in patients with cancer due to various psychological impacts that have neurophysiologic and perceptual character. Such psychiatric complications and psychological challenges impair adjustment capabilities and quality of life of the patient, and also negatively affect the course of disease and response to treatment.[5- 7]Hence; the present study was conducted for evaluating psychiatric illness among breast cancer patients.

MATERIALS & METHODS

The present study was conducted for evaluating psychiatric illness among breast cancer patients. A total of 200 breast cancer patients were enrolled in the present study. Complete demographic and clinical details of all the patients was obtained. All study participants were women who were diagnosed with breast cancer. Data was collected by face-to-face

interviews using a structured and pretested questionnaire which was specifically designed for the study. In the questionnaire two sections were included: Demographic data, PHQ-2 and GAD-2 scales. The Patient Health Questionnaire-2 (PHQ-2) and the Generalized Anxiety Disorder-2 (GAD-2) questionnaire were produced as ultra-brief screening instruments for depression and anxiety, suitable for use in epidemiological studies.[8]MINI scale was also used. Mini-International Neuropsychiatric Interview (MINI) is a structured diagnostic interview schedule for diagnosing psychiatric problems based on Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) and International Classification of Diseases-10.[9]All the results were recorded in Microsoft excel sheet followed by statistical analysis using SPSS software. Chi-square test and univariate analysis was done for evaluation of level of significance.

RESULTS

A total of 200 breast cancer patients were analyzed. Among these breast cancer patients, psychiatric illness was seen in 79 patients. Hence; psychiatric illness was present in 39.5 percent of the patients with breast cancer. Anxiety, depression, Stress/adjustment disorder and Somatoform /Conversion Disorder was present in 14 percent, 12.5 percent, 7.5 percent and 5.5 percent of the patients respectively. Mean age of the patients with and without psychiatric illness was 56.8 and 45.1 years respectively. It was seen that majority of the patients with psychiatric illness were of higher age group in comparison to the patients without psychiatric illness. Majority proportion of the patients with psychiatric illness were of urban residence in comparison to patients without psychiatric illness; the results of which were found to be statistically significant. Higher staging of breast cancer was found to be significantly higher prevalence of psychiatric illness.

Graph 1: Prevalence of psychiatric illness

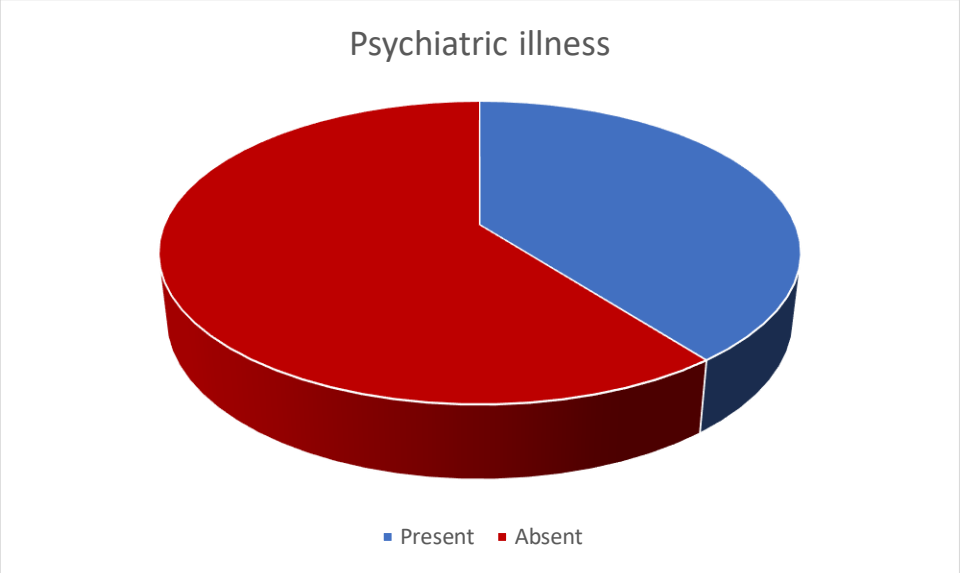


Table 1: Spectrum of psychiatric illness

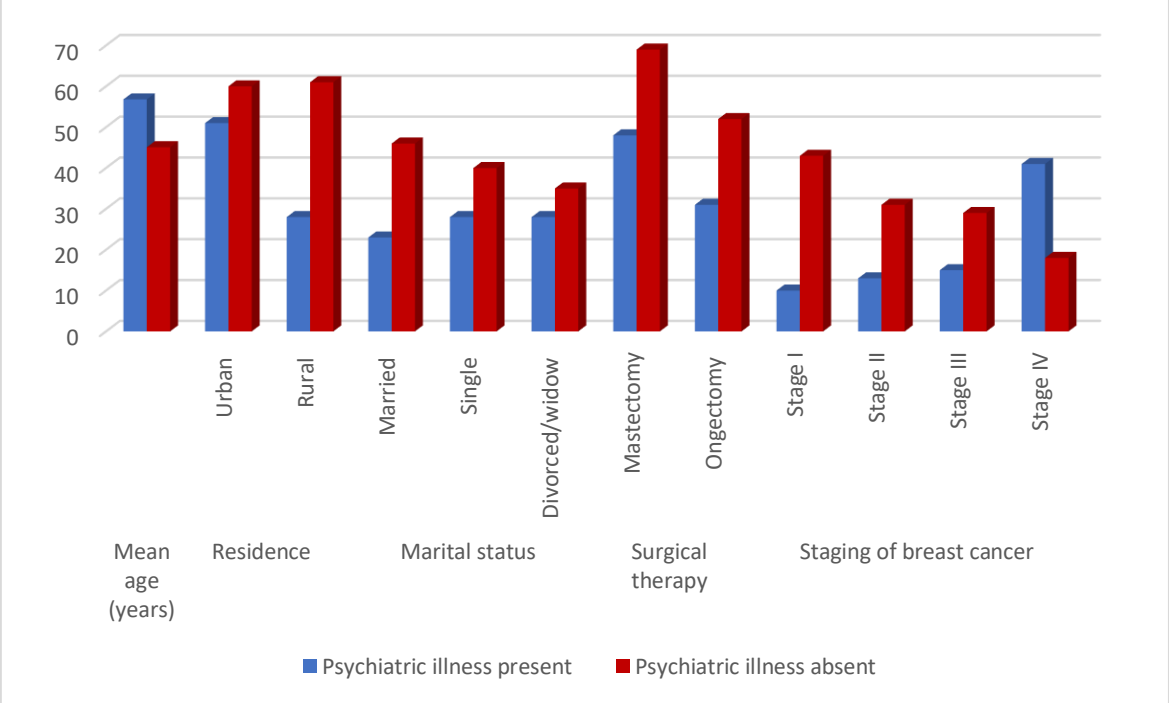
Psychiatric illness	Number	Percentage
Anxiety	28	14
Depression	25	12.5
Stress/adjustment disorder	15	7.5
Somatoform /Conversion Disorder	11	5.5
Total	79	39.5

Table 2: Univariate analysis

Variable		Psychiatric illness present	Psychiatric illness absent	p-value
Mean age (years)		56.8	45.1	0.021 (Significant)
Residence	Urban	51	60	0.001 (Significant)
	Rural	28	61	
Marital status	Married	23	46	0.338
	Single	28	40	
	Divorced/widow	28	35	
Surgical therapy	Mastectomy	48	69	0.619
	Ongectomy	31	52	

Staging of breast cancer	Stage I	10	43	0.000 (Significant)
	Stage II	13	31	
	Stage III	15	29	
	Stage IV	41	18	

Graph 2: Univariate analysis



DISCUSSION

Breast cancer has ranked number one cancer among Indian females with age adjusted rate as high as 25.8 per 100,000 women and mortality 12.7 per 100,000 women. Data reports from various latest national cancer registries were compared for incidence, mortality rates. The age adjusted incidence rate of carcinoma of the breast was found as high as 41 per 100,000 women for Delhi, followed by Chennai (37.9), Bangalore (34.4) and Thiruvananthapuram District (33.7).[10]

Diagnosis at advanced stages of disease contributes to the high mortality rate among women due to breast cancer, which can be attributed to low levels of awareness, cumbersome referral pathways to diagnosis, limited access to effective treatment at regional cancer centres and incomplete treatment regimens. With the rising breast cancer incidence in India and disproportionately higher mortality, it is essential to understand the level of cancer literacy, especially since the average age at diagnosis is 10 years younger than women in Western countries.[11, 12]

Patients with breast cancer are susceptible to mental health problems, such as anxiety, depression and neurocognitive deficits. In 2015, a systematic review reported that, across multiple countries, the prevalence of depression among survivors of breast cancer was between 9·4% and 66·1%, and the prevalence of anxiety was between 17·9% and 33·3%. However, most included studies were in high-income countries. The epidemiology of psychiatric morbidities among survivors of breast cancer varies across countries.[13]Hence; the present study was conducted for evaluating psychiatric illness among breast cancer patients.

In the present study, a total of 200 breast cancer patients were analyzed. Among these breast cancer patients, psychiatric illness was seen in 79 patients. Hence; psychiatric illness was present in 39.5 percent of the patients with breast cancer. Anxiety, depression, Stress/adjustment disorder and Somatoform /Conversion Disorder was present in 14 percent, 12.5 percent, 7.5 percent and 5.5 percent of the patients respectively. The prevalence of depression with BC varies among different countries. The prevalence of depression with BC in Asian countries like China were (26%), India (21.5–47.55%), and Thailand 16.7%. Studies conducted in USA showed the prevalence of depression with BC 46–56%.[14- 18]

In the present study, it was seen that majority of the patients with psychiatric illness were of higher age group in comparison to the patients without psychiatric illness. Majority proportion of the patients with psychiatric illness were of urban residence in comparison to patients without psychiatric illness; the results of which were found to be statistically significant. Higher staging of breast cancer was found to be significantly higher prevalence of psychiatric illness. In a similar study conducted by Heo J et al, authors confirmed mental disorders in a nationwide

cohort of 87,843 people who were diagnosed with invasive breast cancer. From one year before a breast cancer diagnosis, 8430 patients were diagnosed with a mental disorder. Of those patients, 3256 were diagnosed with depression (38.6%) and 2739 with anxiety (32.5%). The overall frequency of mental disorders peaked within one month after the cancer diagnosis. The highest rate of increase after diagnosis was noted in stress reaction/adjustment disorders. Depression was relatively high in the young age group, and anxiety was high in the elderly group. In total, there were 59,111 claims for mental disorders. Over 70% (43,788) of claims for mental disorder treatment were from a psychiatry medical department.[19]The prevalence and associated factors of depression and anxiety in breast cancer patients was analyzed in a previous study conducted by Tsaras K et al. A cohort of 152 breast cancer patients who were attending an outpatient oncology department was recruited. The mean age of the patients was 53.25 years (SD=12.10), 69.7% of the patients underwent mastectomy and 30.3% ongectomy. Chemotherapy received 46.1% of patients as adjuvant therapy, 15.8% radiotherapy and 38.2% received both chemotherapy and radiotherapy. A large percentage found to be classified as depressed (38.2%) and anxious (32.2%) and factors that found to be associated were age, marital status, educational level, stage of cancer from univariate analyses and place of residence, religion, symptoms burden from multivariate analysis (for depression and anxiety).[8]

CONCLUSION

Breast cancer patients are in high risk for developing psychiatric illness. Early identification of predictive and risk factors might contribute in decreasing burden of psychiatric illness among breast cancer patients.

REFERENCES

1. Hanahan D., Weinberg R.A. The Hallmarks of Cancer. Cell. 2000;100:57–70.
2. Sung H., Ferlay J., Siegel R.L., Laversanne M., Soerjomataram I., Jemal A., Bray F. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J. Clin. 2021;71:209–249
3. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. CA Cancer J Clin. 2021;71:209–249
4. International Agency for Research on Cancer. India Source: Globocan 2020. [cited 11 June 2021]. Available from: https://gco.iarc.fr/today/data/factsheets/populations/356-india-fact-sheets.pdf
5. Tavoli A, Mohagheghi MA, Moztazeri A, Roshan R, Tavoli Z, Omidvari S. Anxiety and depression in patients with gastrointestinal cancer: does knowledge of cancer diagnosis matter? BMC Gastroenterology. 2007;7:28.
6. Özkan S. Psiko-onkoloji. 1. Baskı. İstanbul: Form ReklamHizmetleri; 2007.
7. Hardman A, Maguire P, Crowther D. The recognition of psychiatric morbidity on a medical oncology ward. J Psycosom Res. 1989;33:235–239
8. Tsaras K, Papathanasiou IV, Mitsi D, Veneti A, Kelesi M. Assessment of Depression and Anxiety in Breast Cancer Patients: Prevalence and Associated Factors. Asian Pac J Cancer Prev. 2018; 19(6): 1661–1669.
9. Lecrubier Y, Sheehan DV, Weiller E, Amorim P, Bonora I, Sheehan KH, et al. The Mini International Neuropsychiatric Interview (MINI).A short diagnostic structure interview: Reliability and validity according to CIDI. Eur Psychiatry. 1997;12:224–31.
10. Malvia S, Bagadi SA, Dubey US, Saxena S. Epidemiology of breast cancer in Indian women. Asia Pac J Clin Oncol. 2017;13(4):289-295.
11. Dikshit R., Gupta P.C., Ramasundarahettige C., Gajalakshmi V., Aleksandrowicz L. Cancer mortality in India: a nationally representative survey. Lancet. 2012;379(9828):1807–1816.
12. Leong S., Shen Z.-Z., Liu T.-J. Is breast cancer the same disease in Asian and western countries? World journal of surgery. World J Surg. 2010;34(10):2308–2324.
13. Maass SWMC, Roorda C, Berendsen AJ, Verhaak PFM, De Bock GH. The prevalence of long-term symptoms of depression and anxiety after breast cancer treatment: a systematic review. Maturitas. 2015; 82: 100-108
14. Purkayastha D, Venkateswaran C, Nayar K, Unnikrishnan UG. Prevalence of depression in breast cancer patients and its association with their quality of life: a cross-sectional observational study. Indian J Palliat Care. 2017;23(3):268–273.
15. Srivastava V, Ansari MA, Kumar A, Shah AG, Meena RK, Sevach P, Singh OP. Study of anxiety and depression among breast cancer patients from North India. Clin Psychiatr. 2016;2(1):4.
16. Lueboonthavatchai P. Prevalence and psychosocial factors of anxiety and depression in breast cancer patients. J-Med Assoc Thailand. 2007;90(10):2164
17. Christie KM, Meyerowitz BE, Maly RC. Depression and sexual adjustment following breast cancer in low-income Hispanic and non-Hispanic White women. Psycho-Oncology. 2010;19(10):1069–1077
18. Begovic-Juhant A, Chmielewski A, Iwuagwu S, Chapman LA. Impact of body image on depression and quality of life among women with breast cancer. J Psychosoc Oncol. 2012;30(4):446–460.
19. Heo J, Chun M, Oh YT, Noh OK, Kim L. Psychiatric comorbidities among breast cancer survivors in South Korea: a nationwide population-based study. Breast Cancer Res Treat. 2017;162(1):151-158.