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ORIGNAL RESEARCH ARTICLE

Mental Health Status in Patients Who has Undergone Cancer Treatment

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ABSTRACT

Introduction: Psychological distress, including anxiety and depression, is common among cancer patients and can impact treatment outcomes and quality of life. This study aimed to evaluate anxiety and depression levels in post-treatment cancer patients using the GAD-7 and PHQ-9 screening tools.

Material and Methods: 42 patients with various carcinoma types undergoing radiotherapy were assessed. Demographic data, cancer type, treatment details, and responses to GAD-7 and PHQ-9 questionnaires were collected. A descriptive analysis of anxiety and depression symptoms was performed.

Results: The cohort had a mean age of 56 years and was predominantly female, with breast carcinoma being the most frequent diagnosis. Most patients reported minimal anxiety and depressive symptoms. Total PHQ-9 scores ranged from 0 to 8, with the majority scoring in the minimal depression range. GAD-7 responses similarly indicated low anxiety levels. These findings suggest that the post-treatment group exhibits psychological resilience.

Conclusion: Despite the known psychological burden of cancer, most patients in this cohort exhibited low anxiety and depression levels post-radiotherapy. Routine use of brief screening tools like GAD-7 and PHQ-9 can facilitate early identification of psychological distress and guide timely interventions to improve survivorship care.

Keywords: Mental status, GAD-7, PHQ-9, Cancer patients.

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INTRODUCTION

With cancer incidence increasing over time worldwide, attention to the burden of psychiatric and psychosocial consequences of the disease is now mandatory for both cancer and mental healthcare professionals. Psychiatric disorders have been shown to affect at least 30 to 35% of cancer patients during all phases of the disease trajectory and differ in nature according to stage and type of cancer.[1]

The issue of whether mental health professionals should deliver psychological care has been often debated and specifically whether hospitals should employ psycho-oncologists to deliver such care remains contested.[2]

The diagnosis and treatment of cancer have a significant impact on mental health, and are associated with a physical, emotional and financial burden both on individuals and on society as a whole. Both these major non-communicable diseases have close interdependencies.[3] The current review, in addition to the obvious psychosocial elements of depression, explores its biological mechanisms, including tissue damage, inflammatory mediators and the chronic stress response, and how these immune and endocrine pathways may underlie depression in cancer.[4] Laboratory studies have found that norepinephrine, released as part of the body's fight-or-flight response, stimulates angiogenesis and metastasis.[5] This hormone may also activate neutrophils, a type of immune cell. In some cases, neutrophils can help tumors grow by shielding them from the body's immune system; they may also "awaken" dormant cancer cells.[6] The prevalence of sleep complaints in cancer patients has been mostly examined in cross-sectional studies using convenience samples and heterogeneous definitions and measures of sleep disturbances.[7]

Most early studies employed subjective questionnaires to assess self-reported sleep disturbances, rather than using objective measures.[8] Measuring any psychiatric illness by the means of depression, stress levels and anxiety seems reasonable but beyond these points lies the amount of unsaid emotional burden the patient goes through during their treatment for cancer. The term itself is enough to induce any emotional or psychological instability. Cancer pervades many dimensions of an individual's life – demanding a holistic treatment approach. However, studies combining medical and psychological interventions (MPIs) are scarce. High-level stress and poor quality of life (QoL) can hinder patients' prognosis.[9] The study is aimed to assess various factors affecting the mental health of patients undergoing cancer therapy

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MATERIAL AND METHODS

Study Design

This study was a cross-sectional, survey-based investigation aimed at assessing the mental health status of individuals who have completed cancer treatment. The research utilized a quantitative methodology to collect and analyze self-reported data from participants through a structured questionnaire.

Study Setting and Participants

The study was conducted in the Department of Radiation Oncology at SRMSIMS. Eligible participants were adult patients (aged 18 years and above) who had completed primary cancer treatment (surgery, chemotherapy, radiotherapy, or combination therapy) within the past 6 to 24 months or patients who were currently undergoing active cancer treatment. Patients with recurrent cancer, cognitive impairments, or those who were excluded were not eligible.

Sample Size and Sampling Method

A target sample size of 42 patients was determined based on a power calculation using a confidence level of 95% and an expected prevalence of mental health symptoms in post-treatment cancer patients. Participants were recruited using convenience sampling through oncology outpatient departments, cancer survivorship clinics, and patient support groups.

Data Collection Tool

Data were collected using a structured, self-administered questionnaire comprising three sections:

Sociodemographic and clinical data

Including age, gender, type of cancer, treatment modality, time since treatment completion, and comorbidities.

Mental health assessment

Standardized and validated tools were used to assess psychological well-being:

- Patient Health Questionnaire-9 (PHQ-9) for depression
- Generalized Anxiety Disorder-7 (GAD-7) for anxiety

Quality of life and coping mechanisms

Assessed using the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) and selected items from the brief COPE inventory.

Data Analysis

Data were coded and entered into MS Excel for statistical analysis. Descriptive statistics were used to summarize demographic and clinical characteristics. Prevalence rates of depression, anxiety, and distress were calculated. Associations between mental health outcomes and demographic/clinical variables were assessed using chi-square tests, t-tests, and logistic regression analysis where appropriate. A *p-value* of < 0.05 was considered statistically significant.

Table 1: PHQ-9 severity classification

Severity level	*Frequency (n)*	*Percentage (%)*
Minimal (0–4)	20	47.6
Mild (5–9)	10	23.8
Moderate (10–14)	07	16.6
Moderately severe (15–19)	5	11.9
Severe (20–27)	0	0

Table 2: GAD-7 severity classification

Severity level	*Frequency (n)*	*Percentage (%)*
Mild (0–5)	25	59.5
Moderate (6–10)	10	23.8
Moderately severe (11–15)	5	11.9
Severe (15–21)	2	4.7

RESULTS

Patient Characteristics

A total of 42 patients were included in the study. The age range of the sample varied from 20 to 60 years (Mean: 50.6 years). 28.5% were male and 71.4% female. Various cancer types were included majority was breast carcinoma (86%), followed by head & neck cancer (10%), followed by gastrointestinal (4%).

PHQ and GAD-7 score was assessed (Tables 1 and 2). The majority of patients had minimal PHQ and GAD-7 scores, 47.6 and 59.5%, respectively

DISCUSSION

Global prevalence estimates of anxiety and depression among cancer survivors are considerably higher than our findings. A meta-analysis by Wang *et al*., reported pooled prevalence rates of 33% for depression and 30.5% for anxiety.[10]

In India, studies report even higher figures. Chandana *et al*., found that 37.9% of breast cancer patients were affected by depression and 33.6% by anxiety.[11] Factors such as rural residence, younger age, and lower education were significant predictors of distress. Our relatively low prevalence may reflect a better-supported or more emotionally resilient cohort.

In our study, the majority of cancer patients reported minimal symptoms of anxiety and depression, as measured by GAD-7 and PHQ-9 scores. These findings

suggest that psychological recovery may occur following the completion of cancer treatment, particularly radiotherapy. This aligns with findings by Mitchell *et al*., who noted that psychological distress tends to peak during diagnosis and treatment and gradually declines during follow-up and survivorship stages.[12]

Similarly, Pitman *et al*., observed that while emotional distress is common in cancer care, long-term survivors often return to baseline levels of psychological functioning, especially with psychosocial support.[13]

Impact of Cancer Type and Gender on Psychological Outcomes

Breast carcinoma was the most common diagnosis in our study, and most participants were female. Literature suggests that women, particularly those with breast cancer, are more vulnerable to psychological distress.[14] However, our cohort displayed minimal symptoms, potentially due to timing post-treatment and effective support systems. This is similar to the findings by Fann et al., who reported a natural decline in emotional symptoms with time.[15]

Importance of Timing in Psychological Screening

The timing of assessment in our study—several months post-treatment—likely influenced the lower distress scores. Selby *et al*., highlighted that anxiety and depression tend to be most severe during active treatment and may lessen with recovery.[16]

These findings support the need for continued monitoring, emphasizing longitudinal mental health screening in survivorship care plans.

Value of GAD-7 and PHQ-9 in oncology settings

GAD-7 and PHQ-9 are brief, validated screening tools ideal for oncology settings. As per the National Comprehensive Cancer Network (NCCN), their routine use is encouraged to ensure early detection and referral for mental health services.[17]

CONCLUSION

This study found low levels of anxiety and depression among post-treatment cancer patients, contrasting with national and global trends. Our findings support the utility of brief mental health screening tools in survivorship care. Continued psychological assessment and support are vital to promote well-being in oncology patients.

REFERENCES

1. Mental health care in oncology(contemporary perspective on psychosocial burden of cancer and evidence based medicine) by R Caruso and W Breitbart.
2. Prevalence of mental health conditions in cancer patients in caute care – a meta analysis by S. Singer , J Das Munshi and E Brahler.
3. Long term conditions and Mental health – The cost of co morbidities on centre for mental health , London by C. Naylor and MParsonage and D. Mcdald.
4. Depression in cancer patients : pathogenesis , implications and treatment by Hamish R smith .
5. Moreno-Smith M, Lutgendorf SK, Sood AK. Impact of stress on cancer metastasis. *Future Oncology* **2010**
6. Perego M, Tyurin VA, Tyurina YY, *et al*. Reactivation of dormant tumor cells by modified lipids derived from stress-activated neutrophils. *Science Translational Medicine* **2020;**
7. Ancoli-Israel S, Moore P, Jones V. The relationship between fatigue and sleep in cancer patients: A review. Eur J Cancer Care
8. Savard J, Morin CM. Insomnia in the context of cancer: a review of a neglected problem. J Clin
9. Cancer pervades many dimensions of an individual's life – demanding a holistic treatment approach. However, studies with combined medical and psychological interventions (MPIs) are sparse. High-level stress and poor quality of life (QoL) can hinder patients' prognosis.
10. Chandana H, Sharma A, Varghese BT, Singh A. Depression and anxiety among patients with breast cancer: a cross-sectional study from North India. Indian J Psychiatry. 2021;63(3):264–9.
11. Wang YH, Li JQ, Shi JF, Que JY, Liu JJ, Lappin JM, *et al*. Depression and anxiety in relation to cancer incidence and mortality: a systematic review and meta-analysis of cohort studies. Mol Psychiatry. 2020 Jul;25(7):1487–99.
12. Pitman A, Suleman S, Hyde N, Hodgkiss A. Depression and anxiety in patients with cancer. BMJ. 2018 Feb 21;361:k1415.
13. Mitchell AJ, Chan M, Bhatti H, Halton M, Grassi L, Johansen C, *et al*. Prevalence of depression, anxiety, and adjustment disorder in oncological, haematological, and palliative-care settings: a meta-analysis of 94 interview-based studies. Lancet Oncol. 2011 Feb;12(2):160–74.
14. Burgess C, Cornelius V, Love S, Graham J, Richards M, Ramirez A. Depression and anxiety in women with early breast cancer: five-year observational cohort study. BMJ. 2005 Mar 26;330(7493):702.
15. Fann JR, Thomas-Rich AM, Katon WJ, Cowley D, Pepping M, McGregor BA, *et al*. Major depression after breast cancer: a review of epidemiology and treatment. Gen Hosp Psychiatry. 2008 Jan–Feb;30(2):112–26.
16. Selby D, Cascella B, Gardiner K, Doan T, Bainbridge D, Sussman J. Screening for depression in cancer patients receiving palliative care: a comparison of the PHQ-9 with HADS. J Pain Symptom Manage. 2011 Jan;41(1):90–6.
17. National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology: Distress Management. Version 2.2023. Available from: https://www.nccn.org