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A Study on Psychological Morbidity of Cancer Patients Post-Radiotherapy in Acharya Tulsi Research Centre of PBM Hospital Associated with Sardar Patel Medical College, Bikaner

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Abstract: ***Background: Cancer diagnosis and treatment, particularly intensive modalities like radiotherapy, impose a severe psychological burden that is often under-assessed and under-treated, especially in resource-limited settings like India. This study aimed to assess the prevalence and determinants of psychological morbidity among cancer patients following radiotherapy. Methods: A hospital-based cross-sectional study was conducted at the Acharya Tulsi Research Centre, PBM Hospital, Bikaner. A total of 160 histologically confirmed cancer patients (aged 18-70 years) who had completed radiotherapy were enrolled via random sampling. Psychological morbidity was assessed using the General Health Questionnaire-12 (GHQ-12), the Hospital Anxiety and Depression Scale (HADS), and the Presumptive Stressful Life Events Scale (PSLES). Socio-demographic and clinical data were collected via a structured interview. Results: The study found an alarmingly high prevalence of psychological distress: 65% of patients scored above the threshold for significant distress on the GHQ-12. Clinical anxiety (HADS-A ≥8) was present in 90.6% of patients, and clinical depression (HADS-D ≥8) in 81.2%. The most common self-reported symptoms were anxiety (84.4%) and hopelessness (77.5%). Advanced cancer stage (Stage III/IV), poor family support, and lower socioeconomic status (Below Poverty Line) were identified as significant determinants associated with higher psychological morbidity (p<0.05). Conclusion: Psychological morbidity is pervasive and severe among cancer patients post-radiotherapy in this regional cohort. The findings underscore an urgent, unmet need for integrating routine psychological screening and structured psychosocial interventions into standard oncology care. Strengthening family support systems and addressing socioeconomic burdens are critical components of a holistic care model to improve patient outcomes and quality of life.***

Keywords: Cancer, Psychological Morbidity, Radiotherapy, Anxiety, Depression, Psycho-oncology, India

1. Introduction

Cancer represents a critical global and national public health challenge, imposing a severe burden that extends beyond physical morbidity to encompass significant psychological distress. The diagnosis, progression, and intensive treatment regimens, such as radiotherapy, frequently precipitate emotional suffering, manifesting as anxiety, depression, hopelessness, and fear of recurrence or death.[1,2] In India, with over 1.1 million new cases annually, the psychological dimension of cancer care remains under-prioritized, particularly in resource-limited settings.[3] This neglect is compounded by cultural stigma, financial strain, and fragmented psychosocial support systems, which can adversely affect treatment adherence, quality of life, and overall outcomes.[4,5] The Acharya Tulsi Research Centre at PBM Hospital, serving a predominantly rural and semi-urban population of Rajasthan, presents a critical setting to explore this issue. **Aim and Objectives:** This study aimed to assess the prevalence and determinants of psychological morbidity among cancer patients post-radiotherapy. The specific objectives were: 1) To profile the socio-demographic and clinical characteristics of patients; 2) To measure and compare levels of anxiety, depression, and stress; and 3) To identify key factors associated with psychological morbidity.

2. Material and Methods

A hospital-based, cross-sectional study was conducted over one year at the Radiotherapy Department. The study population comprised 160 histologically confirmed cancer patients aged 18-70 years who had completed radiotherapy. Patients with psychotic illnesses, severe debilitation, or other chronic diseases were excluded. The sample size was calculated based on pilot study parameters for anxiety, depression, and stress, with a 90% power and 5% significance level, adjusting for a 10% non-response rate. Participants were selected via simple random sampling. Data collection involved face-to-face interviews using a structured proforma for socio-demographic and clinical details. Psychological morbidity was assessed using three standardized tools: the General Health Questionnaire-12 (GHQ-12, cut-off >3), the Hospital Anxiety and Depression Scale (HADS, subscales for Anxiety-HADS-A and Depression-HADS-D), and the Presumptive Stressful Life Events Scale (PSLES). Written informed consent was obtained. Data analysis was performed using SPSS v16.0, employing descriptive statistics, Chi-square tests, t-tests, and logistic regression where appropriate.

3. Results

The study comprised 160 patients (46.25% male, 53.75% female). The majority were aged 41-70 years (92.5%), Hindu (92.5%), from rural areas (49.4%), and had primary education or were illiterate (74.4%). The most common cancers were

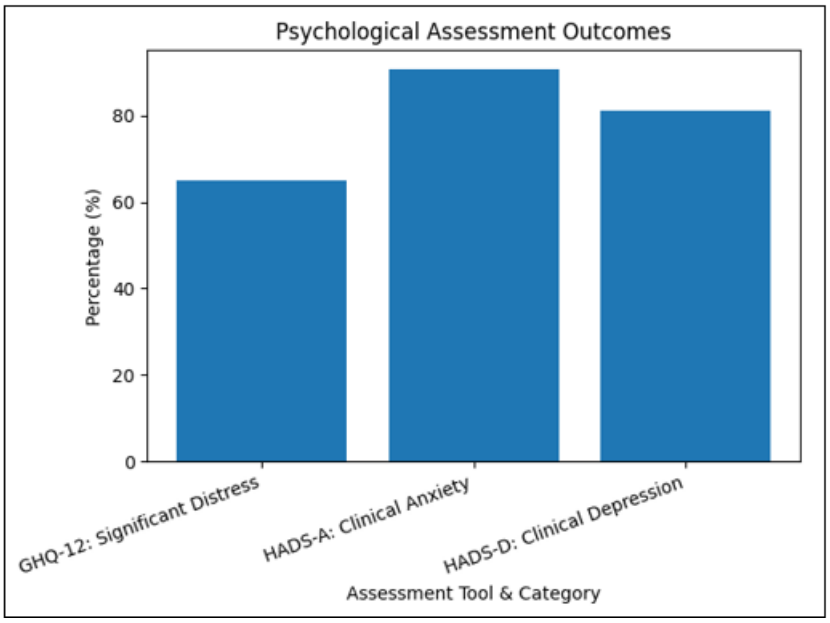
oral (25.6%), gastrointestinal (15.6%), and breast (13.8%). Over half (52.5%) presented at Stage III. Symptomatically, anxiety (84.4%), hopelessness (77.5%), and sadness (76.9%) were highly prevalent.

Table 1: Prevalence of Psychological Morbidity via Standardized Tools

Assessment Tool & Category	Number (n)	Percentage (%)
GHQ-12 (Score >3): Significant Distress	104	65.0
HADS-A (Score ≥8): Clinical Anxiety	145	90.6
HADS-D (Score ≥8): Clinical Depression	130	81.2

Table 2: Psychological Morbidity by Cancer Stage (Mean Scores)

Cancer Stage	GHQ-12 Score	HADS-A Score	HADS-D Score
Stage I & II	4.5	8.8	9.3
Stage III	5.5	9.9	10.8
Stage IV	5.9	10.3	11.2



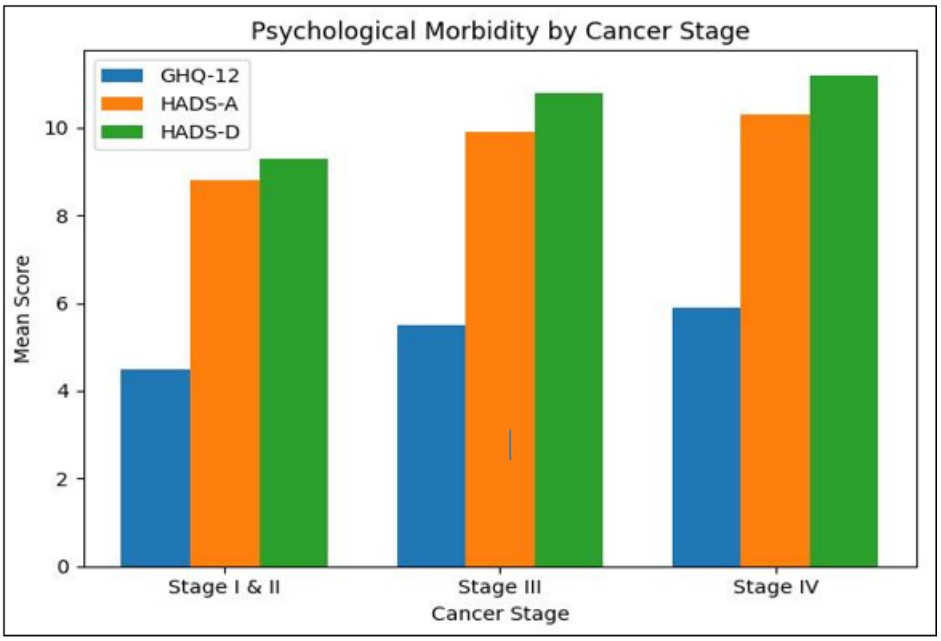


Table 3: Association of Psychological Scores with Family Support

Family Support Level	GHQ-12 (Mean)	HADS-A (Mean)	HADS-D (Mean)
Good (n=106)	4.8	9.2	9.8
Moderate (n=42)	5.9	10.5	11.4
Poor (n=12)	6.8	11.8	12.6

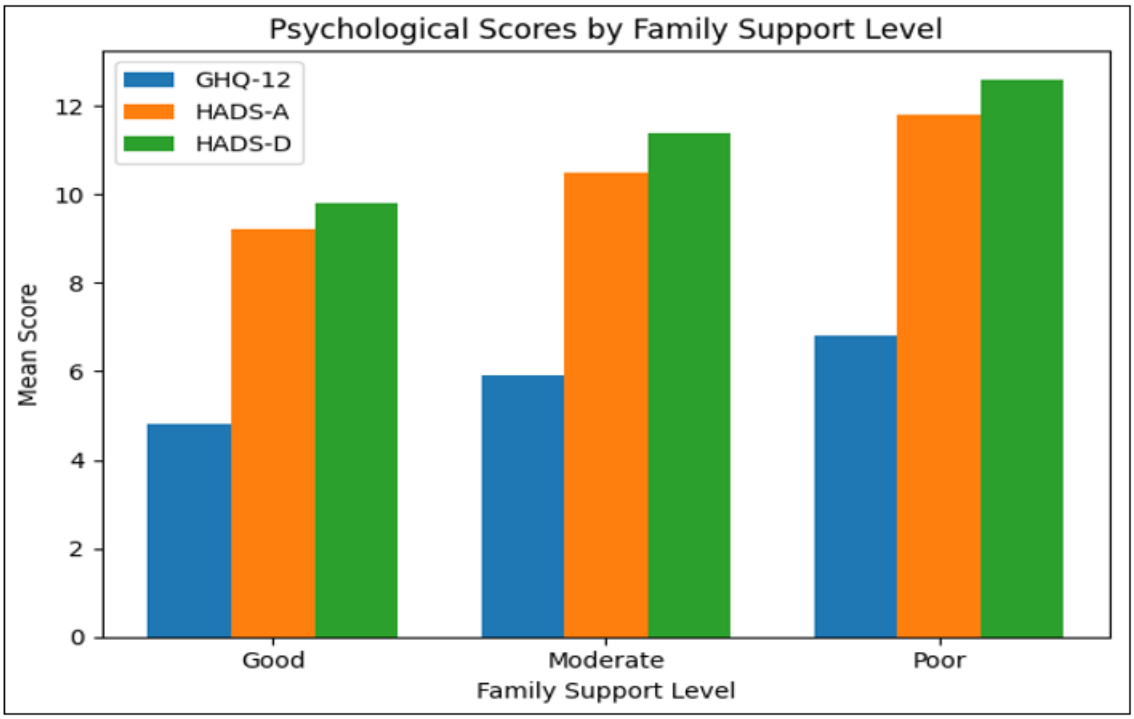


Table 4: Socio-demographic Factors and High Distress (GHQ>3)

Factor	Category	% with High Distress	p-value
Gender	Female	66.3%	0.312
	Male	63.5%	
Residence	Rural	68.4%	0.189
	Urban	61.0%	
Financial Status	BPL/APL	78.6%	**0.022**
	Middle/Upper Class	60.0%	

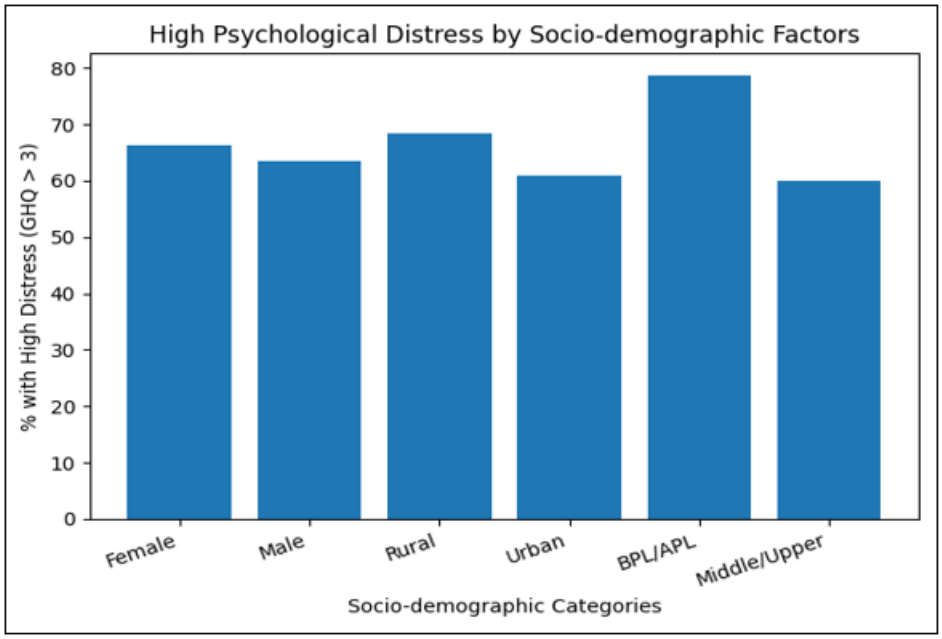


Table 5: Logistic Regression: Determinants of High Psychological Morbidity (GHQ>3)

Determinant	Adjusted Odds Ratio (AOR)	95% Confidence Interval	p-value
Advanced Stage (III/IV vs. I/II)	3.1	1.4 - 6.8	**0.005**
Poor Family Support	4.5	1.8 - 11.2	**0.001**
Below Poverty Line (BPL) Status	2.7	1.2 - 6.1	**0.018**
Partial/No Illness Awareness	1.9	0.9 - 4.0	0.085

4. Discussion

The study reveals an alarmingly high prevalence of psychological morbidity among post-radiotherapy cancer patients, with 65% experiencing significant general distress, 90.6% clinical anxiety, and 81.2% clinical depression. These figures exceed many global estimates,[6] likely reflecting the compounded stressors in a resource-constrained setting with advanced disease presentation (52.5% in Stage III). The strong association between advanced cancer stage and higher morbidity scores aligns with existing literature, where disease progression correlates with increased fear, symptom burden, and uncertainty.[7] Family support emerged as a critical protective factor; patients with poor support had markedly higher distress scores. This underscores the central role of the family unit in patient coping within the Indian socio-cultural context.[8] Interestingly, while financial deprivation (BPL status) was a significant risk factor, gender did not show a statistically significant association, contrary to some studies,[9] suggesting that the universality of the cancer stressor may overshadow other demographics in this cohort. The high prevalence, coupled with identified determinants, highlights a vast unmet need for integrated psychosocial care within the oncology framework of this region.

5. Conclusion

This study conclusively demonstrates that psychological morbidity is a pervasive and severe companion to physical illness among cancer patients undergoing radiotherapy in this regional setting. The overwhelming majority of patients experience clinically significant anxiety and depression, which are significantly worsened by advanced disease stage, poor family support, and economic hardship. These findings mandate a paradigm shift from purely biomedical care to a holistic, integrated psycho-oncology model. Routine screening for distress using tools like GHQ-12 or HADS should be instituted at the radiotherapy OPD. Establishing dedicated counselling services, training healthcare providers in basic psychological first aid, and facilitating patient support groups are essential steps. Furthermore, interventions aimed at bolstering family caregivers and providing economic guidance or support can address key modifiable risk factors. Future research should focus on longitudinal studies and evaluating the effectiveness of such targeted psychosocial interventions in improving overall patient outcomes and quality of life.

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