



Psychosocial Distress And Its Impact On Head And Neck Cancer Patients Undergoing Radiation Therapy: A Prospective Screening Study At Apex Super Specialty Hospital, Varanasi

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Abstract

Background: Head and neck cancers (HNC) contribute significantly to the global cancer burden, with high incidence rates in India. Patients with HNC often experience substantial psychosocial distress, including depression and anxiety, which negatively affect their quality of life and treatment outcomes.

Objective: To assess the psychosocial health of HNC patients undergoing radiation therapy and emphasize the need for routine psychosocial evaluations in oncology care.

Methods: This prospective study was conducted at Apex Super specialty Hospital, Varanasi, with 130 HNC patients (121 males, 9 females; aged 50–70 years). Psychosocial health was assessed during an 8-week radiation therapy course using the Patient Health Questionnaire (PHQ) and Beck Anxiety Inventory (BAI).

Results: Moderate depression (PHQ scores: 10–14) and anxiety (BAI scores: 16–25) were observed, highlighting the prevalence of psychosocial distress during treatment.

Conclusion: Psychosocial distress is a significant issue in HNC patients, often under recognized in clinical settings. Routine screening and tailored interventions addressing depression and anxiety are crucial to improve patient outcomes.

Keywords: Head and neck cancer, Psychosocial distress, Radiation therapy, Depression, Anxiety, Quality of life.

INTRODUCTION :

Cancer remains the leading cause of death worldwide, with nearly 10 million cancer-related deaths reported in 2020 (Siegel et al., 2020) (Baidoun et al., 2021). Among various types, head and neck cancers (HNC) constitute a significant burden, particularly in India, where the age-standardized incidence rate of HNC is 25.9 per 100,000 males and 8.0 per 100,000 females. Males face a notably higher lifetime risk of developing HNC at 1 in 33, compared to 1 in 107 for females (Bagal et al., 2023) (Barman et al., 2020). Key risk factors for HNC include smoking, tobacco and alcohol consumption, human papillomavirus (HPV) infection (Espinoza et al., 2021) (Sarwar et al., 2022), poor oral hygiene, ill-fitted dentures, occupational exposure to harmful substances, and genetic predisposition.

Beyond the physical and clinical challenges, HNC imposes a considerable psychosocial burden, negatively affecting patients' quality of life and clinical outcomes. Psychosocial distress arises from factors related to both the disease and its treatment, including surgical disfigurement, vocal cord damage, the chronic nature of the disease, fears of recurrence, and social stigma. Additional stressors such as financial strain, guilt, shame, poor sexual relationships, and the emotional toll of coping with cancer further exacerbate patients' emotional well-being (Nayak et al., 2022)(S. Nayak et al., 2022)(Sharma, 2024) . Addressing psychosocial distress is crucial for improving quality of life, underscoring the need for psychosocial interventions alongside traditional treatment strategies.

Standard treatments for HNC—surgery, chemotherapy, and radiation therapy—often exacerbate these psychosocial challenges. Radiation therapy, in particular, is associated with high levels of distress. Systematic reviews show that the prevalence of depression among HNC patients undergoing radiation therapy ranges from 9.8% to 83.8%, with a pooled estimate of 63% (Loh et al., 2024)(Beiner et al., 2024). Distress tends to increase as treatment progresses, further compromising essential functions like eating, swallowing, and speaking, which leads to reduced social interactions and declines in overall quality of life. Despite the prevalence of psychosocial distress in HNC patients, adequate screening for such distress is often overlooked in oncology settings. This highlights the urgent need for comprehensive evaluations throughout treatment. A multidisciplinary approach to addressing psychosocial distress is essential for enhancing patient outcomes.

While many studies have examined psychosocial distress in HNC patients before and after radiation therapy, there is a lack of research focused on distress experienced during the radiation therapy course itself. Bridging this gap through focused screening and tailored intervention strategies are essential for improving the quality of life for HNC patients during their treatment journey.

MATERIAL AND METHODS :

- **Study Design:** Prospective observational study.
- **Study Setting:** Radiation Oncology Department of Apex Superspeciality Hospital, Varanasi.
- **Study Participants:**
 - Total of 130 head and neck cancer (HNC) patients (121 males, 9 females).
 - Age range: 50–70 years.
 - Focus on cancers of the buccal mucosa, alveolus, mandible, maxilla, lip, retromolar trigone, and tongue.
- **Inclusion Criteria:**
 - Patients who had undergone tumor resection surgeries (bite composite resection, node dissection, fasciocutaneous flap reconstruction) an average of 1.3 months prior to starting radiation therapy.
 - Patients undergoing radiation therapy for HNC.
- **Treatment Details:**
 - Average of 30 fractions of radiation therapy per patient.
 - Most patients presented with advanced stages of HNC (staging data not recorded).
- **Psychosocial Health Assessment:**
 - **Patient Health Questionnaire (PHQ):** Used to assess depression severity. A score between 10 and 14 indicated moderate depression.
 - **Beck Anxiety Inventory (BAI):** Used to measure anxiety levels. A score between 16 and 25 indicated moderate anxiety.
- **Study Duration:** 8 weeks of monitoring.
- **Primary Objective:**
 - To evaluate emotional distress (depression and anxiety) in patients undergoing radiation therapy for HNC.
 - To assess the potential impact of psychosocial distress on patients' overall health.

RESULTS:

The study revealed significant levels of moderate depression (PHQ scores: 10–14) and anxiety (BAI scores: 16–25) among the participants. These findings underscore the widespread presence of psychosocial distress in HNC patients undergoing radiation therapy. The emotional toll was notably high, with distress levels

increasing as treatment progressed. These findings highlight the need for timely psychological support to mitigate the emotional burden associated with cancer treatment.

DISCUSSION :

Head and neck cancer patients face significant emotional distress during their treatment, especially when undergoing radiation therapy. This distress can be attributed to multiple factors, including the effects of the disease itself, such as disfigurement from surgery, functional impairments (e.g., difficulty eating, swallowing, and speaking), and the fear of recurrence. These issues are compounded by social stigma, financial strain, and relationship difficulties, all of which can lead to poor mental health outcomes, including depression and anxiety (Schenker et al., 2015).

The findings of this study reinforce previous research indicating a high prevalence of psychosocial distress in HNC patients, particularly during radiation therapy. This distress not only affects patients' emotional well-being but also interferes with their ability to function socially, thereby worsening their overall quality of life. While psychosocial interventions, such as meditation and counseling, have been shown to alleviate some of the emotional burden, studies indicate that the benefits of different intervention techniques can vary (Vinod et al., 2020). This emphasizes the importance of a personalized, multidisciplinary approach to psychosocial care.

Despite the significant prevalence of distress, routine screening for psychological symptoms is often neglected in clinical practice. The lack of systematic psychosocial assessments in oncology settings is a critical gap in patient care. By incorporating standardized tools such as the PHQ and BAI, healthcare providers can identify patients at risk of depression and anxiety, allowing for timely intervention and support (Hosseini, 2023)(Monga et al., 2023). Furthermore, this study highlights the importance of continuous monitoring throughout the course of treatment, as distress tends to increase over time.

A multidisciplinary team, including oncologists, psychologists, and social workers, is essential for effectively addressing the psychosocial needs of HNC patients. Tailored interventions—such as psychological counseling, relaxation techniques, and social support—can help mitigate distress and improve the overall treatment experience. The findings of this study advocate for the routine integration of psychosocial screenings and interventions into oncology care.

CONCLUSION :

Head and neck cancer is strongly associated with substantial psychosocial distress, which often remains underrecognized in oncology settings due to the focus on physical treatment. This underscores the urgent need for routine psychosocial distress screening as part of comprehensive cancer care. Identifying vulnerable patients early in their treatment journey and implementing tailored interventions is crucial for improving their quality of life and enhancing their overall cancer care experience. A multidisciplinary approach is essential for addressing both the emotional and physical aspects of HNC treatment, ultimately leading to better patient outcomes.

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