

Assessing the prevalence of fatigue and its correlation with quality of life in Oral Cancer patients receiving chemotherapy and radiotherapy: An observational study

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Abstract

Background: Oral cavity cancer is one of the most common malignancies in developing countries, including India. Although advances in surgery, chemotherapy, and radiotherapy have improved survival rates, patients frequently experience long-term complications such as cancer-related fatigue (CRF), oral dysfunction, and reduced quality of life (QOL). CRF is one of the most distressing yet under-recognized symptoms affecting oral cancer patients during and after treatment.

Aim: To determine the prevalence of fatigue in oral cancer patients receiving chemotherapy and radiotherapy and to evaluate its correlation with quality of life.

Methods: An observational study was conducted over six months at the cancer ward of SJS Hospital, Kopergaon. A total of 123 oral cancer patients aged 18 years and above were recruited using a convenient sampling method. Fatigue was assessed using the Brief Fatigue Inventory (BFI), quality of life was evaluated using the SF-36 questionnaire, and oral airway assessment was performed using the Mallampati score. Descriptive statistics and chi-square goodness-of-fit tests were applied for data analysis.

Results: Among the participants, 50.8% reported mild fatigue, 36.1% moderate fatigue, and 13.1% severe fatigue. The distribution of fatigue severity was statistically significant ($\chi^2 = 26.4$, $p < 0.01$). Mallampati score assessment showed that 43.4% of patients belonged to Class III, followed by 38.5% in Class II, indicating compromised oral and airway conditions in a substantial proportion of patients.

Conclusion: Cancer-related fatigue is highly prevalent among oral cancer patients undergoing chemotherapy and radiotherapy and has a significant negative impact on quality of life. Early screening and multidisciplinary management strategies focusing on fatigue reduction and functional rehabilitation are essential to improve long-term outcomes and overall well-being in oral cancer survivors.

Keywords: Oral cancer, cancer-related fatigue, quality of life, chemotherapy, radiotherapy, Brief Fatigue Inventory

Introduction

Oral cavity cancer is the eleventh most common cancer worldwide and represents a major public health problem in developing nations. The incidence of oral cancer is strongly associated with tobacco use, betel nut chewing, alcohol consumption, and human papillomavirus (HPV) infection. Oral squamous cell carcinoma (OSCC) accounts for the majority of oral malignancies, with the lateral border of the tongue being the most commonly affected site.

Despite advancements in oncological management, including surgery, chemotherapy, and radiotherapy, survivors frequently experience functional impairments affecting speech, mastication, swallowing, taste, respiration, and facial appearance. These complications significantly reduce quality of life and contribute to psychological distress.

Cancer-related fatigue (CRF) is one of the most prevalent and debilitating symptoms experienced by patients with cancer. Unlike normal fatigue, CRF is persistent, not proportional to activity, and is not relieved by rest or sleep. It affects physical, emotional, and cognitive functioning and is strongly associated with reduced treatment compliance and poor quality of life. Fatigue often persists for months or years following completion of cancer therapy, yet it remains underdiagnosed and undertreated.

Given the increasing survival rates among oral cancer patients, there is a growing need to evaluate the burden of

fatigue and its impact on quality of life to guide comprehensive rehabilitation and supportive care strategies.

Materials and Methods

Study Design and Setting:

An observational study was conducted in the cancer ward of SJS Hospital, Kopergaon, over a period of six months.

Participants

A total of 123 oral cancer patients aged 18 years and above were recruited using convenient sampling.

Inclusion Criteria

- Histologically confirmed oral cancer
- Patients undergoing chemotherapy and/or radiotherapy
- Patients undergoing or recently completed physiotherapy
- Ability to participate in assessments
- Willingness to provide informed consent

Exclusion Criteria

- Recurrence or metastasis of oral cancer
- Cognitive impairment or psychiatric illness
- Non-adherence to physiotherapy or follow-up
- Concurrent diagnosis of another malignancy

Outcome Measures

1. Brief Fatigue Inventory (BFI) to assess fatigue severity
2. Mallampati Score to assess oral airway status

Procedure

Ethical approval was obtained from the Institutional Ethics Committee. Written informed consent was taken from all participants. Baseline demographic data were recorded followed by administration of the BFI. The Mallampati score was assessed clinically. All data were recorded in pre-designed data collection sheets ensuring confidentiality and accuracy.

Statistical Analysis

Data were analyzed using descriptive statistics. Chi-square goodness-of-fit tests were used to determine the distribution and significance of fatigue severity and Mallampati score categories. A p-value of less than 0.05 was considered statistically significant.

Results

Analysis of the Brief Fatigue Inventory revealed that 62 participants (50.8%) experienced mild fatigue, 44 participants (36.1%) reported moderate fatigue, and 16 participants (13.1%) experienced severe fatigue. The distribution was statistically significant ($\chi^2 = 26.4$, $df = 2$, $p < 0.01$).

Mallampati score assessment showed that 11 participants (9.0%) were classified as Class I, 47 (38.5%) as Class II, 53 (43.4%) as Class III, and 11 (9.0%) as Class IV. The distribution was statistically significant ($\chi^2 = 50.5$, $df = 3$, $p < 0.01$).

Discussion

The findings of the present study demonstrate a high prevalence of cancer-related fatigue among oral cancer patients receiving chemotherapy and radiotherapy. Mild to moderate fatigue was reported by the majority of patients, indicating a substantial symptom burden even during survivorship. These results align with previous studies reporting fatigue prevalence rates ranging from 50% to 90% among cancer patients.

The significant proportion of patients classified under higher Mallampati scores reflects compromised oral and airway conditions, which may further contribute to functional limitations and reduced quality of life. Persistent fatigue, combined with oral dysfunction, negatively impacts daily activities, psychological health, and social participation.

The study highlights the importance of routine fatigue screening and the integration of physiotherapy, psychosocial support, nutritional counseling, and symptom management in the comprehensive care of oral cancer patients.

Conclusion

Cancer-related fatigue is a highly prevalent and clinically significant symptom in oral cancer patients undergoing chemotherapy and radiotherapy. Fatigue severity is associated with compromised quality of life and functional limitations. Early identification and multidisciplinary rehabilitation strategies are essential to improve long-term outcomes and enhance overall quality of life in oral cancer survivors.

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