

Original Research

A cross sectional study to evaluate pain management and quality of life among oral cancer patients

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ABSTRACT:

Introduction: Oral cancer is a health concern in India, accounting for 90% of all head and neck cancers. Recent advances in treatment have improved survival rates, but unbearable pain creates a poor quality of life. Head and neck cancer is observed to be a heterogenous group of diseases concerning the incidence, treatment and prognosis. This study aims to evaluate the pain management and quality of life among patients with cancer of oral cavity, pharynx and oesophagus using an 8-point self-designed oral cancer pain management and quality of life evaluation questionnaire. **Materials and Methodology:** A total of 70 patients with the histological diagnosis of squamous cell carcinoma of oral cavity, pharynx and oesophagus who are undergoing therapy particularly surgery or radiotherapy, concurrent chemoradiotherapy and palliative therapy were generally included in the study. Chi-square test was used to determine statistically significant differences for the responses given by oral cancer patients. $P \leq 0.05$ was considered statistically significant. **Results:** The site distribution of oral squamous cell carcinoma is given in the table-1. 51.6% of the patients experienced aching type of pain and 30.4% of the patients hugely experienced burning type of pain during the process of oral cancer treatment. 93.8% of the patients intended to take pain medication on a regular basis whereas 6.3% of the patients were observed to be taking medication only when needed. 12.5% of the patients were uncertain about the need for stronger medication. 36% of the oral cancer patients had reported with severe mood swings. 45.3% of the patients had moderate mood swings. 31.3% of the patients had severe sleep disturbance. 23.5% of the oral cancer patients had moderate sleep disturbance. **Conclusion:** Pain medication did not have any analgesic effect in almost 33% of the patients reported with oral cancer. 93.7% of the oral, pharyngeal and oesophageal squamous cell carcinoma patients undergoing treatment have moderate to severe pain. The prime focus in treating oral cancer patients should be completely on pain management, as pain causes moderate to severe eating difficulty, sleeping difficulty and mood swings.

Keywords: oral cancer, dysphagia, mucositis, quality of life

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INTRODUCTION

The reports on the incidence of head and neck cancer (HNC) is estimated to be affecting more than 500,000 people globally, representing about 6% of all cancer diagnoses and causes 350,000 deaths annually.^{1,2} Head and neck cancer is observed to be a heterogenous group of diseases concerning the incidence, treatment and prognosis.³ The modality of management of HNC might include surgery, chemotherapy and radiotherapy (RT) in various

combinations.^{1,4} A common RT regimen that has been followed is two gray (Gy) per day five days per week for a total cumulative dose of 50–70 Gy.⁴ Patients that are treated for HNC mostly suffer from various psychological and physical symptoms that could negatively impact their daily life which include depression and a lacking sense of meaning, pain, xerostomia and swallowing disorders.⁵ Based on the National Comprehensive Cancer Network Task Force, the most common adverse events that are in

connection with the treatment of cancer is reported to be nausea, vomiting and mucositis.⁶ Oral mucositis is observed to be an inflammation of the oral and oropharyngeal mucous membrane that usually resulted from the toxic effects of RT and chemotherapy.⁷

Recently, various treatment approaches might vary according to the stage of the disease which the patient reported.⁸ Radiotherapy (RT) alone is used only in early to advanced stages of oral cancer.⁹ There are several treatment approaches that could be effectively used in patients with OPC who present in intermediate or advanced stages of the disease: surgery followed by adjuvant RT or concurrent radiochemotherapy (RT-CT); definitive RT or RT-CT, followed by definitive RT-CT induction chemotherapy and RT combined with a monoclonal antibody which are directed to epidermal growth factor receptor (EGFR).¹⁰ RT alone, or RT combined with CT or monoclonal antibody therapy, is known to induce noticeable side effects.¹¹ RT is usually delivered over a period of about 6–7 weeks. Although RT alone is usually painless and it induces an acute post-radiation reaction – a debilitating side effect, starting primarily as pronounced oral confluent mucositis and dermatitis which is followed by reduced oral intake, weight loss and pain.⁹ The acute reaction to radiation starts at 2–3 weeks from the beginning of RT and gradually increases, with healing taking place mostly through 4–6 weeks after RT cessation. Pathogenesis of the pain which appears to be quite complex and not only related to direct mucosal damage by ionising radiation and mostly triggered by various cytotoxic reactions.¹¹ Hence, this appropriate pain management plays pivotal role in the overall outcome of therapy with regard to patient management tolerance and their QoL.¹¹ This study aims to evaluate the pain management and quality of life among patients with cancer of oral cavity, pharynx and oesophagus using an 8-point self-designed oral cancer pain management and quality of life evaluation questionnaire.

MATERIALS AND METHODOLOGY

A total of 70 patients with the histological diagnosis of squamous cell carcinoma of oral cavity, pharynx and oesophagus who are undergoing therapy particularly surgery or radiotherapy, concurrent chemoradiotherapy and palliative therapy were generally included in the study. After getting the ethical clearance, this study was commenced and the duration of the study was estimated to be around 6 months.

Patients that are diagnosed with squamous cell carcinoma of head and neck and who were interested to participate voluntarily were included in the study and those patients who were unwilling to participate, denied to sign the informed consent and observed with metastasis, were excluded from the study. Other head and neck malignancy such as brain tumours,

salivary gland tumours and thyroid carcinomas were also excluded from the study. After obtaining written informed consent of the patients, the study was carried out. For those patients who are most backward in education and those who could not read or respond for any reason, the researcher was opted to read the questions and answers and recorded the responses.

Data gathered from completed questionnaires were entered in a Microsoft Excel spreadsheet and statistical analysis was done by using Statistical Package of Social Science (SPSS 21). Chi-square test was used to determine statistically significant differences for the responses given by oral cancer patients. $P \leq 0.05$ was considered statistically significant.

RESULTS

An elaborate analysis of the data from the questionnaire showed that the mean age of the study population was 54.19 ± 7.7 years. The study recruited 70 patients out of which 48 patients were males (68.8%) and 22 patients were females (31.2%). 67.2% of the patients observed that their pain was due to their oral cancer, 15.6% of the patient's reported pain was due to treatment and 17.2% of the patients observed that the pain is due to oral cancer and its varied treatment. Most common site for oral squamous cell carcinoma was observed to be the buccal mucosa with 48.5% and the least common site was the tongue with 3.1%. The site distribution of oral squamous cell carcinoma is given in the table-1. 51.6% of the patients experienced aching type of pain and 30.4% of the patients hugely experienced burning type of pain during the process of oral cancer treatment. 93.8% of the patients intended to take pain medication on a regular basis whereas 6.3% of the patients were observed to be taking medication only when needed. In 33% of the patients, pain medication does not have any analgesic effect. In 25% of the patient, pain medication works for 1–2 hours after the administration of the medications. 32.8% of the patients observed that they need stronger medication as given in table – 3. 12.5% of the patients were uncertain about the need for stronger medication. 36% of the oral cancer patients had reported with severe mood swings. 45.3% of the patients had moderate mood swings. 31.3% of the patients had severe sleep disturbance. 23.5% of the oral cancer patients had moderate sleep disturbance as given in table – 4. 39.1% of the patients had severe interference in eating. 25% of the patients had moderate interference in eating as seen in table – 5. On using numeric pain intensity scale, 42.2% had severe oral cancer pain, 51.5% had moderate pain, and 6.3% had no pain which has been given in table - 6.

Table – 1: Site distribution of oral cancer

Site	Percentage
Buccal mucosa	49
Pyriform fossa	20
Oesophagus	13
Floor of mouth	3
Maxilla	3
Retromolar area	9
Tongue	3

Table – 2: Duration of effective pain control in cancer patients

Duration	Percentage
0 hours	33
1 – 2 hours	23
2 – 3 hours	15
More than 3 hours	27

Table – 3: In need of stronger medication for effective pain control in oral cancer

Variable	Percentage
Yes	33.2
No	54.2
Not sure	12.5

Table – 4: Difficulty in sleep due to oral cancer pain

Variable	Percentage
No	13
Mild	32.2
Moderate	23.3
Severe	31.5

Table – 5: Difficulty in eating due to oral cancer pain

Variable	Percentage
No	0
Mild	36.5
Moderate	24.4
Severe	39.1

DISCUSSION

Based on the National Cancer Registry Programme (NCRP), almost around 80–90% of oral cancer is directly attributable to the usage of tobacco. The mean age of oral cancer patients is observed to be 50 years.¹² Treatment modality includes surgery, various types of radiotherapy, concomitant chemo radiotherapy and palliative care. The most common symptoms that were observed in oral cancer patients are observed to be pain and soreness in the mouth. Patients who were administered topical anaesthetics, non-steroidal anti-inflammatory drugs and morphine on a regular basis for pain management as per WHO protocol. The mean age of the oral cancer patients observed in the present study is 54.19 ± 7.7 years which was consistent with the results obtained from the study done by *Shenoi* et al.¹² The present study detailed that around 67.2% of the patients had

reported with pain at the time of diagnosis which was higher than the results of the study performed by *Jean Potter* et al.¹³ This suggested that there is reportedly some delay in seeking the treatment for oral cancer. The most common acute oral side effect observed in patients undergoing chemotherapy and radiotherapy is oral mucositis.¹⁴ Combined chemotherapy and radiation therapy mostly resulted in increased frequency, severity and duration of mucositis.¹⁵ In the current study, 30.4% of the patients had burning type of pain which was lower compared to the study done by *McGuire* DB et al.¹⁶ This reduction in burning pain might be due to the advances in treatment like intensity-modulated radiotherapy and use of amifostiene. Therefore, in the present study, 51.6% patients had already experienced aching type of pain. According to *Oliveira* KG et al., 66.6% of patients had taken analgesics for pain control. In the present study, 93.7% of the patients used analgesics on regular basis for pain control which is higher when compared to the study done by *Oliveira* KG, et al.¹⁷ Moreover, 33% patients had reported with no pain relief despite taking pain medications which is reportedly consistent with the results of *Hinther* A, et al.¹⁸ 32.8% of the patients observed that they need stronger pain medication for their oral cancer pain. This further question the need for new and novel approaches in pain management. Along with pain, the quality of life is also affected due to oral cancer. In the current study, 36% of the patients had severe mood swings due to oral cancer pain. Therefore, according to *Janosky* JE, a multidisciplinary approach that include a psychiatrist as well to oral cancer management along with rational administration of antidepressants and anxiolytics for management of mood swings.¹⁹ 54.8% of oral cancer patients had moderate to severe sleep disturbance which is eventually comparable to that of study done by *Oliveira* KG, et al where moderate to severe pain indicated greater impairment on insomnia.¹⁷ In the present study, 63.5% had moderate to severe interference in eating food. This is inconsistent with the study done by *Nie* M, et al where drinking fluid, eating semi solid food and choked when eating was also taken into account. Also, eating fluid and semifluid items could result in the food leakage from the defects in surgically resected maxilla or mandible.²⁰ *Lango* MN, et al have proposed that dysphagia identifies patients who are predisposed to oral recurrence and death.²¹ According to *Goswami* et al patients who are undergoing oral cancer treatments might experience emotional distress, concerns for appearance, changes in daily activities, feeling blamed, denial, avoidance, discomfort, stigmatization, financial insecurity and public support and eating and chewing difficulty.²² In the present study, on using numeric pain intensity scale, 42.2% had severe oral cancer pain and 51.5% had moderate pain. This result is not consistent with *Saxena* A, et al

where 70% had severe oral cancer pain and 14% had moderate pain.²³Therefore, the result obtained from the present study is reportedly very significant where in the intensity of pain had been reduced from severe to moderate almost since the last two decades. In depth discussion on the assessment of pain through various questionnaires is given by H Brevik et al.²⁴ The advantages of this simplified oral cancer pain management and quality of life evaluation questionnaire that were employed in the present study are user friendliness, better patient co-operation, easily comprehensible by all patients, large population can be assessed in a relatively shorter period of time.

CONCLUSION

Pain medication did not have any analgesic effect in almost 33% of the patients reported with oral cancer. 93.7% of the oral, pharyngeal and oesophageal squamous cell carcinoma patients undergoing treatment have moderate to severe pain. The prime focus in treating oral cancer patients should be completely on pain management, as pain causes moderate to severe eating difficulty, sleeping difficulty and mood swings. This simplified questionnaire on the quality of life could be used as preliminary tool to assess the oral cancer pain and quality of life. Effective methods in pain management are required to enhance the quality of life in oral cancer patients.

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