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Original Research Article

STUDY TO EVALUATE THE SOCIODEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF ORAL CANCER PATIENTS

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Abstract

Objective: In the world, India is the nation with the fastest-growing trends in oral cancer incidences. It is a well-known truth that a person's chance of survival is quite low if oral cancer has spread to an advanced stage. Examining the clinical profile of instances of oral cancer and its associated epidemiological characteristics was the research's goal.

Method: This cross-sectional study was carried out at Rajendra Institute of Medical Sciences, Ranchi within 2 years. A pre-designed structured questionnaire was used to interview a total of 200 individuals. A 5% level of significance was assigned to the outcome after suitable statistical analyses were run.

Results: The patients were male (91.46%) and female (8.52) in gender, with a mean age of 47.67 (±11.557) years. Patients most frequently had mouth ulcers (82.3%) and trouble swallowing (5.2%) as their initial symptoms. The most afflicted areas were the tongue (41.1%) and buccal mucosa (46.4%). Most of the patients were from lower socioeconomic strata and were in advanced stages (Stage III and IV), with Stage III being the stage that was most common at presentation and Stage IV coming in second.

Conclusion: Males over the age of 41 and rural patients from lower socioeconomic classes had a higher incidence of oral cancer. The patients most often reported the first symptom was ulcers in the mouth. The most frequent location was the buccal mucosa, and the majority of the patients fell into the Stage III and Stage IV categories.

Keywords: Socioeconomic background, oral cancer, tumors, tongue, and ulcers

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INTRODUCTION

A malignant tumor known as oral cancer can develop on the tongue, the floor of the mouth, lips, gingiva, cheek lining, or palate [Figure 1; 1]. Males in India are more likely to get oral cancer than lung cancer, according to one study [2]. Oral cancer, which makes up

around 30% of all cancers in India, affects 20 persons out of every 100,000 people. The incidence of lip and oral cavity cancer in India was 10.3% (135929) in 2020, according to the Globocan Cancer Statistics, while it was 16.2% (104661) in men and 4.6% (31268) in women [2].

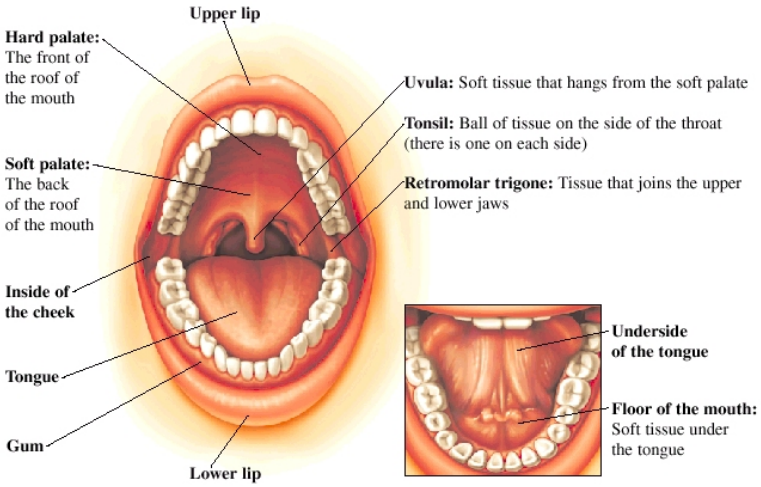

Figure 1: Oral Cancer

The real incidence of cases and mortality rate may be greater in India since it is not required to register cancer cases, which means that many cases went unrecorded and without adequate follow-up [3]. Most people do not have access to facilities where they may go and report to an organized operating and well-regulated system in many impoverished nations, including India. Cancer diagnoses can result in significant personal out-of-pocket medical expenses. Such costs may jeopardize social stability and bring the entire family below the poverty level [4].

There was significant research being done on oral and oropharyngeal cancer at several universities, hospitals, medical facilities, and other institutions around the nation. Every year, scientists worked to develop new ways to stop it and enhance existing treatments. Until recently, it was believed that oral cancer only affects the elderly. Although it might also afflict youngsters as young as 10, the 50-to-70-year age range was the most frequently affected. The risk of oral cancer rises with age [5]. The fifth decade of life was the most typical [5].

Men were more impacted than women in all age categories when gender was taken into account. The shifts in behavioral and lifestyle habits in India affected males two to four times more than women. The many risk factors connected to oral cancer are described in this study. With these factors in mind, the following goals for the current study were set: to research the clinical, socio-demographic, and gender correlations of oral cancer patients.

METHODS:

Study Design: This cross-sectional study was carried out at Rajendra Institute of Medical Sciences, Ranchi within 2 years.

Methodology: The questionnaire that was used for the interview asked general questions about the subject's age, gender, address, religion, caste, education, occupation, number of family members, income, marital status, socioeconomic status, type of family, diet, and the first symptom they experienced and for which they first saw a doctor. Along with these symptoms, questions about difficulties opening the mouth, any co-existing diseases, the kind of lesion, the location of the malignancy, their treatment history, and TNM staging were also asked of them.

The tumors were found in the following areas: the tongue's border, the floor of the mouth (with extension to the ventral tongue), the buccal mucosa (including the buccal sulcus and mesiobuccal fold), the soft palate and

tonsil region, the lower lip, and others (in cases where the primary location was unknown). They were also asked if they were aware of and had recorded the therapy recommended by the cancer doctor or oncology surgeon on the treatment card that was available in the ward of the relevant hospital using document analysis.

Sample Size: Based on inclusion criteria, 200 patients were enrolled.

Inclusion criteria: Patients who provided written consent to participate in the study and those who received a diagnosis of oral cancer from the relevant doctor at Rajendra Institute of Medical Sciences, Ranchi were included.

Exclusion criteria: Patients with advanced oral cancer who were in critical condition.

Statistical analysis: Data input was carried out using the Microsoft Excel program. Using the common program SPSS-15, all the data was descriptively evaluated and statistically assessed. Chi-Square, Fisher Exact, Frequency, and Percentage tests were used, and significance was detected at the 5% level of significance.

RESULTS:

Males were afflicted more frequently than females in the age range of 40 to 51 years when oral cancer most frequently manifested itself in the current study. Patients from lower and lower middle socioeconomic classes and rural areas with limited health facilities made up the majority of the patient population. The most frequent symptom for which individuals saw a doctor was an oral ulcer. The participants' most frequent oral cancer sites were the buccal mucosa and tongue. The majority of patients had oral cancer that was in its advanced stages (Stage III and Stage IV) **[Table 1].**

Table 1: Socio-demographic characteristics of patients with oral cancer

Criteria		Total [n=200] [%]	Male [n=170] [%]	Female [n=30] [%]	Chi-Square/ Fisher exact test, P value
Area of Residence	Rural	61%	60.7%	51.6%	0.904,0.341
	Urban	41%	39.1%	48.2%	
Age Group	20-40	30.2%	31.1%	20.6%	1.812, 0.403
	41-60	54%	54.6%	58.5%	
	>61	14.6%	14%	20.6%	
Occupation	Unskilled	87.8%	86.7%	98%	3.692,0.131
	Skilled	4%	10.2%	1%	
	Semi-skilled	0.2%	2.8%	1%	
Socio-economic status	Upper	3.7%	4.1%	1%	6.636, 0.126
	Upper middle	8.4%	9.1%	3.3%	
	Middle	15.2%	15%	17.1%	
	Lower middle	34%	32.1%	55.1%	
	Lower	38.1%	39.4%	24%	
Marital status	Married	88.7%	90.1%	75.8%	12.020, 0.003
	Unmarried	4%	4.4%	1%	
	Divorced	0.2%	0.2%	1%	
	Widow/Widower	6.7%	5%	24%	
Education	Illiterate	30.2%	27.2%	62%	15.157, 0.0002
	Literate	69.6%	72.6%	37.8%	
Diet	Veg	51.4%	50.1%	65.4%	2.503,0.123
	Non-veg	48.4%	49.7%	34.4%	

More than 3/5 of the patients in the current research were literate. Compared to the male patients, who made up just 27.2% of the illiterate group, the percentage of female patients was much greater (62.0%). Married people (88.7%) and unskilled people (87.8%) had greater percentages. The proportion of widowed women (24.0%) was much higher than that of widowed men (5.0%). More patients in this research belonged to lower-class and lower-middle-class backgrounds. Males and females were seen to follow vegetarian and non-vegetarian diets in approximately equal amounts. (Table 1).

Ulceration (82.4%) was shown to be the most prevalent first symptom in oral cancer patients, followed by swallowing problems (5.2%), burning sensations in the mouth (3.4%), and swelling around the head and neck (3.4%). For both males and females, there were 86.1 and 82.1% of ulcerations, respectively. The majority of people (61.4%), who had difficulties opening their mouths, displayed the early symptoms but were unable to report them. However, 14.3% reported the symptoms within 5 months, and 7.0% reported them between 5 and 11 months later. Patients were more likely to have diabetes (3.1%) and hypertension (3.1%). While just 2.5% of men had diabetes and hypertension, the frequency was 10.3% among female patients.

The most severely impacted anatomical location was the mouth (buccal mucosa), which was affected 46.4% of the time. Other affected anatomical sites were the tongue (41.1%), palate (4.3%), alveolus (2.0%), lip (1.7%), cheek (1.7%), floor of mouth (1.1%), gingival (0.5%), parotid (0.2%), and oro-pharynx (0.2%). Most patients were in Stage III (47.93%), then Stage IV (31%), Stage II (21.46%), and Stage I (0.57%). A quarter (25.5%) of patients underwent both surgery and radiation, 21% received chemotherapy, 12.8% underwent surgery, and 12.5% received both surgery and chemotherapy. 11.4% of patients underwent a combination of radiation, chemotherapy, and surgery. There were no statistically significant differences between males and females in the location of the malignancy, its stage, or the type of therapy they received.

DISCUSSION:

The average age of all oral cancer patients in the current research was 47.67 (±11.557). The study conducted reported that the study [6] respondents' average age was 51.06 (±14.52) years, which is similar to the age of the current study. More than half of the patients in the current research were in the 40–61 age range. According to research [7], the age group most impacted was 51–60 years, followed by 41–50 years. Due to social and cultural reasons, it was shown in the current study that men were more likely than women to develop this deadly neoplasm due to the easy availability of tobacco products. 61% of the patients in this research were from rural regions. The bulk of the research respondents (51.62%) were from rural areas, and 21.78% were illiterate, according to study findings that were comparable to those of the current study [8].

In the current study, surgery, and radiotherapy were the most crucially required treatments, and roughly one-fourth of the patients received them. According to an author's study, the majority of patients required radiotherapy and surgery as treatment options [9]. A mouth ulcer was seen in 82.3% of the patients. According to research, 92% of patients had oral ulcers [10]. The tongue and buccal mucosa were the most afflicted areas in the current investigation. In the past, it was stated that tongue and mouth cancers were more common in Western nations, whereas on the Indian subcontinent, the buccal mucosa and gingiva buccal sulcus were found to be more frequently affected by tobacco quid like khaini, gutkha, betel quid, etc. in the oral cavity [11].

According to research, the most frequent location for oral cancer lesions was the buccal mucosa, which was followed by the tongue, lower and upper alveoli, the lower lip, the hard palate, and the floor of the mouth [12]. The most frequent location, according to

research, was the buccal mucosa [13]. This variation across sites may be because the participants kept tobacco products at these locations for extended periods before developing mouth cancer. The most frequent locations for cancer in both men and women, according to one study, were the tongue and buccal mucosa [14]. The tongue was the second-most frequent place after the buccal mucosa, with a frequency of 23 (17.7%) [15].

Stage III illness predominated in the current study's patients (47.91%), followed by Stage IV disease (31%). One of the main issues in developing nations, particularly in India, is the late detection of carcinoma, which hurts the effectiveness of therapy [12].In the research, Stage III and IV oral cancer were seen in the majority of study participants. This might be brought on by a lack of information or a lack of diagnostic and treatment resources [16]. According to Shenoi R et al., the bulk of patients, or 243 (82.37%), were recorded in Stage III, followed by 34 (11.53%) in Stage II and 18 (6.1%) in Stage IV [17]. The possibility of organ preservation in patients as well as the size and location of the tumor are the main determinants of how oral cancer is treated. The early stages of oral cancer were treated with radiotherapy and surgery. To reduce the prevalence of oral cancer in India, early detection, prevention, and prompt treatment were essential [17].

CONCLUSION:

Males were afflicted more frequently than females in the age range of 40 to 51 years when oral cancer most frequently manifested itself in the current study. Patients from lower and lower middle socioeconomic classes and rural areas with limited health facilities made up the majority of the patient population. The most frequent symptom for which individuals saw a doctor was an oral ulcer. The participants' most frequent oral cancer sites were the buccal mucosa and tongue. The majority of patients had oral cancer that was in its advanced stages (Stage III and Stage IV).

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