

Original Research

Effect of demographic factors on the delayed presentation of oral cancer: A cross-sectional study

¹Rhythm Sharma, ²Jasmeen Kaur, ³Amneet Singh Sekhon

¹BDS, Arogya Hospital, Amritsar, Punjab, India;

^{2,3}BDS, India

ABSTRACT:

Background: In India, oral cancer is a serious health concern. Most oral cancer patients are diagnosed at an advanced stage of the disease. **Materials and Methods:** Between May and August 2023, the head and neck surgery outpatient department of our tertiary care facility in Amritsar, Punjab, conducted this questionnaire-based, cross-sectional study on patients with oral cancer. Consenting patients were asked to complete a questionnaire with 31 multiple-choice questions. The patients' socioeconomic and demographic characteristics, awareness of risk factors, symptomatology, attitude towards cancer management, access to cancer care, and understanding of cancer treatments and their results were evaluated. **Results:** There were 400 patient's total; of those, 70% were men. To get to our centre, around 60% of the participants had to travel over 100 kilometres. About 50% of the patients had a cigarette addiction of some kind. Among the participants, only 30% were aware of the mouth cancer risk factors. The median interval between the onset of symptoms and the first medical appointment was 120 days, whereas the median interval between the onset of symptoms and the diagnosis of cancer was 165 days. 90% of patients underwent some type of alternative treatment before seeing a cancer expert, with about 75% of patients beginning with an alternative medicine practitioner. About 80% said complementary and alternative medicine was a good way to treat cancer. **Conclusion:** Our study demonstrates the widespread ignorance and false beliefs that are held by the rural populace. To combat the issue of delayed presentation of oral cancers, primary healthcare personnel should be trained to recognise early symptoms of the disease, cigarette cessation programmes can be promoted, and oral self-examination and its importance can be taught to individuals.

Keywords: Delayed diagnosis, head and neck cancer, India, late presentation, oral cancer, rural

Received: 22 July, 2023

Accepted: 26 August, 2023

Corresponding author: Rhythm Sharma, BDS, Arogya Hospital, Amritsar, Punjab, India

Email: dr.rhythmsharma90@gmail.com

This article may be cited as: Sharma R, Kaur J, Sekhon AS. Effect of demographic factors on the delayed presentation of oral cancer: a cross-sectional study. J Adv Med Dent Sci Res 2023;11(10):10-13.

INTRODUCTION

India is responsible for around one-third of the global burden of oral cancer. According to GLOBOCAN 2020, it is the most prevalent cancer in Indian men and the second most common cancer overall in India. It is the second-leading cause of cancer-related mortality, accounting for almost 72,000 annual fatalities, after breast cancer.[1] Despite the fact that this malignancy exhibits recognisable signs at an early stage, the majority of patients arrive for care at an advanced stage of the illness.[2] As a result, fewer people are eligible for treatments with a curative purpose. Furthermore, even patients with locally advanced disease who get curative intent treatment need involved facial reconstructions and large surgical resections. This has an impact on how well these

patients accept, adhere to, and finish their treatments, which ultimately compromises their functional ability, lowers their quality of life, increases their risk of treatment-related morbidity, and reduces their chance of survival.

Patients with oral cancer may present later than expected for a variety of reasons, such as those connected to the patient, main doctor, local customs, cultural norms, awareness, accessibility, and so on. By recognising these variables, politicians, professionals in public health, and medical professionals can take proactive measures that will result in early discovery and effective management. This knowledge may be even more applicable in rural areas where a more complex interplay of numerous factors is anticipated and made even more difficult by low socioeconomic

position and educational attainment, which leads to incorrect assumptions and a lack of understanding. There are few research addressing this issue in the rural community as a whole, despite the enormous burden of the problem and the significant expected benefit from targeted interventions. Therefore, we set out to discover what causes oral cancer patients in rural settings to present later than expected. This investigation was carried out at our tertiary care facility in Punjab, India.

MATERIALS AND METHODS

Between May and August 2023, oral cancer patients who visited the head and neck surgical oncology outpatient department (OPD) of our tertiary care cancer hospital in Amritsar, Punjab, India, were the subjects of a cross-sectional study using a questionnaire. The Declaration of Helsinki's ethical principles, as well as other standards like the Good Clinical Practice Guidelines and those set by the Indian Council of Medical Research, were followed in the study's conduct. Before enrolling in the trial, the patients provided written informed permission. Patients with oral cancer who visited our head and neck surgical oncology OPD without prior treatment and gave their agreement to take part in the trial were enrolled. Patients under the age of 18 and those who have previously had cancer were excluded.

Our study's main goal was to identify the variables linked to oral cancer patients' delayed presentation. The clinical symptomatology, the level of oral cancer awareness, the duration between presentation to the primary physician and that to a specialised cancer centre, and the amount of awareness of oral cancer care were secondary goals.

The participants in the study completed a questionnaire that was given to them by residents in the head and neck surgical oncology OPD. The patients were given a basic explanation of the questionnaire in everyday language. They were given enough time and a comfortable setting to complete the questionnaire. The 31 multiple-choice questions on the survey may be finished in 7-8 minutes. The patient's demographic and socioeconomic profile, their awareness of risk factors and symptomatology, their attitude towards cancer management, their access to cancer care, and their understanding of cancer therapy and its outcomes were all the subjects of questions.

The Statistical Package for Social Sciences, published in 2011 by IBM Corp. Data analysis was performed using IBM SPSS Statistics for Windows, Version 20.0, Armonk, NY: IBM Corp. To summarise the data, straightforward descriptive statistics have been utilised.

RESULTS

This study covered 400 patients in total. The bulk (70%) of the participants in our study were men, with the majority of them coming from rural areas. The

study cohort's median age was 52.4 years; the range was 25 to 80. 160 patients in total (40%) lived within 100 miles of our clinic; the remaining patients lived farther away. A comorbidity was present in 140 patients, or 35% of the total. A total of 300 patients (75%) had only completed their primary education, 88 (22%) were illiterate, and only 12 (3%) had completed their secondary education. 240 patients (60%) had an average monthly family income of up to Rs 45,000, and 300 patients (75%) were farmers or farmworkers.

Table 1: Details of participants

Variables	N (%)
Gender	
Males	280(70)
Females	120(30)
Location	
Nearby area	160(40)
Far areas	240(60)
Comorbidities	
Present	140(35)
Absent	260(65)

Only 60 patients (15%) knew someone who had oral cancer, despite the fact that 340 patients (85%) had heard of the disease. 100 patients (25%) had smoked in the past, 100 patients (25%) had used smokeless tobacco in the past, and 200 patients (50%) had consumed alcohol significantly. A total of 260 patients (65%) consented to start making lifestyle adjustments by giving up alcohol and tobacco. Just 120 individuals (30%) knew what might have caused their mouth cancer. The most prevalent symptom, ulcers, was reported by 200 patients (or 50%), followed by lump or swelling in 80 patients (20%), bleeding in 60 patients (15%), restricted mouth opening in 32 patients (8%), neck swelling in 24 patients (6%), and red/white patches in the mouth in 12 patients (3%) patients. One hundred and sixty patients (40%) said they were aware of a method for detecting oral cancer. The most often mentioned modality for diagnosis was an X-ray, which was mentioned by 72 patients (18%), followed by a clinical examination (60%) and computed tomography (CT) or magnetic resonance imaging (MRI) (28) patients, respectively. All patients appeared or were referred to our facility as a result of at least one symptom, with mouth ulcer, lump or swelling, and neck swelling being the most frequently reported symptoms in 200 (50%), 100 (25%), and 32 (8%) patients, respectively.

Table 2: Habits of participants

Variables	N (%)
Knowledge of Oral cancer	
Yes	60(15)
No	340(75)
Habits	
Smoked Tobacco	100(25)
Smokeless Tobacco	100(25)
Alcohol	200(50)

Before seeking any medical treatment, symptoms persisted for an average of 120 days. Only 100 patients (or 25%) sought treatment from an allopathic

physician when their symptoms first manifested; the other 300 (75%), however, were seen by practitioners of alternative medicine. The majority of individuals who sought the advice of allopathic doctors—50%—went to the dentist, followed by the general practitioner in 30% of cases and surgeons in 10% of cases. No one sought the advice of a cancer specialist directly. 140 patients (35%), who believed that their symptoms were minor and would go away on their own, attributed the long delay in seeking medical attention to personal or social beliefs. In addition, 120 patients (30%) blamed financial difficulties, 60 (15%) treatment-related anxiety, 60 (15%) transportation problems, and 16 (4%) a lack of time to see a doctor. Between the onset of symptoms and cancer diagnosis, there was a median delay of 5.5 months. For 280 patients (or 70%), the delaying of going to a cancer institution was due to the fact that their primary doctor never informed them that they might have cancer and instead only treated their symptoms. These people came to our facility because their problems either got worse or didn't get better. A total of 166 patients (40%) cited financial concerns as the cause of the delay, while a similar number (166 patients) cited treatment-related anxiety. A total of 140 patients (35%), however, cited accessibility challenges and a lack of social and familial support as the cause. The stigma associated with receiving a cancer diagnosis and the worry of rejection by family and friends were cited as delays by about 120 (30%) people.

In our dataset, 120 patients (30%) believed that cancer was curable, and a similar percentage knew of at least one therapy option. The most frequent treatment option was surgery, which 240 patients (60% of them) were aware of. Chemotherapy and radiation therapy were then known to 160 (40%) and 40 (10%) patients, respectively. Only 80 patients (20%) viewed non-allopathic (alternative) cancer treatment as ineffective, while 160 (40%) thought it was somewhat effective, 160 (40%) thought it was very effective, and 200 patients (50%) thought it was even more effective than any allopathic modality. Only 140 patients (35%) thought that surgery was an appropriate option for treatment, whereas 140 (35%) preferred radiation therapy and 120 (30%) favoured unconventional therapeutic alternatives. 360 patients in total (90%) have used an alternative drug at some point following the onset of symptoms. None of the patients believed that their disease could be cured, and the majority of them believed that their chances of survival after being diagnosed with cancer ranged from a few months to less than a year.

DISCUSSION

Our desire to comprehend the causes of our patients' delayed presentation to our healthcare institution in a remote region of northern India led to the development of this study. In this rural population, we discovered a shocking lack of knowledge, anxiety, and several misconceptions about cancer and its treatment,

as well as an unacceptably high dependence on complementary and alternative medicine. This study highlights the issues at the local level and offers some doable solutions that, if put into action and put into practise, would make it easier for patients to appear at an earlier stage of the disease, thereby improving outcomes.

Most of our patients were male, and the bulk of them were from rural areas. According to numerous prior studies [4–7] and other studies from India, this may be due to men smoking more cigarettes or gender discrimination in healthcare access. [8–11] The majority of the tobacco produced in India, which is the second-largest tobacco producer in the world, is consumed there. The Global Adult Tobacco Survey GATS, 2016–2017 estimates that there are currently 266.8 million tobacco users in India.[12] In India, 35% of individuals use tobacco in one way or another.[13] Since smoking is a known risk factor for oral and oropharyngeal cancers, [14–16] the prevalence of tobacco use in India is a serious issue that needs to be addressed right away in a well-thought-out and methodical way.

The majority of the participants in our study had only completed primary school, which is in line with the average level of education in the country. This is alarming and calls for immediate action. Previous research have indicated that illiteracy may have an impact on people's awareness of and ability to recognise cancer symptoms and treatments.[17,18] The fact that 60% of the patients had to travel a long way to get to a tertiary cancer treatment facility was sad to notice. Any healthcare institution can be difficult to get if you have to travel far, but this is especially true in rural areas with limited infrastructure and connectivity, which is made more difficult by a reliance on public transit. The majority of our patients were farmers, and it was noted that during the sowing and harvesting seasons, their visits to medical facilities tended to significantly decline. This could be a potential cause of delay and needs to be specifically addressed when creating an educational awareness programme.

Only 15% of the participants in our survey knew someone who had oral cancer, despite the fact that the majority of them had heard of the disease. What was concerning was that, despite numerous studies demonstrating a very strong correlation between tobacco use and cancer, just 25% of participants were aware that smoking was a risk factor for oral cancer.[15,19] Only 70% of those who had been diagnosed with cancer were willing to give up tobacco use, despite the fact that about 50% of the study population had a history of smoking in some way. Given that the habit of smoking is typically picked up early in life through peer pressure and imitation, public health education beginning at the school level emphasises a very crucial area for intervention. At least one-third of schoolchildren under the age of 15 have used cigarettes, according to many surveys

conducted across the nation.[20,21] The most typical sign was an ulcer followed by a lump, although only 3% of participants were aware of premalignant diseases, which, if detected early, may be treated. Therefore, raising awareness of premalignant diseases is crucial to preventing presentations that are already progressed. Only 15% of participants in our survey were aware that cancer could be detected during a clinical examination. This demonstrates how little is known about how frequently the disease can be detected in its earliest stages by a clinical examination, which is easy, quick, and inexpensive. The median delay of 4 months between the beginning of symptoms and consultation with a healthcare professional was even more upsetting. Oral malignancies are recognised for their quick progression, and advancement during this period has a negative impact on the prognosis, occasionally even turning a treatable condition into an incurable one. Only 25% of the patients sought medical assistance even then, with the remaining 75% turning to practitioners of alternative medicine. This might have prolonged the period between the development of symptoms and successful treatment. In addition, none of the patients sought out a cancer specialist without a recommendation. Only 10% of the individuals saw an ENT specialist; the majority saw a general practitioner or a dentist. This may have delayed discovery and caused advanced stages to reveal themselves. According to earlier research, 60% to 80% of patients in India have advanced-stage disease when they first appear, compared to 40% in Western nations.[17,18] A later presentation results in a lower overall survival rate. Not only may early detection increase survival, but it can also lower the cost and morbidity of cancer treatment.[2]

Our study has some drawbacks, such as its small sample size and lack of follow-up evaluation. Using a larger general population to tackle these myths and apprehensions, future studies with larger sample sizes should concentrate on building a structured teaching and counselling module based on the findings from our study.

CONCLUSION

Our study demonstrates that the rural population suffers from a severe lack of knowledge and several misconceptions. To combat the issue of delayed presentation of oral cancers, primary healthcare personnel should be trained to recognise early oral cancer indications, cigarette cessation programmes can be promoted, and oral self-examination and its importance can be taught to individuals.

REFERENCES

- Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin* 2021;71:209-49.

- Coelho KR. Challenges of the oral cancer burden in India. *J Cancer Epidemiol* 2012;2012:701932.
- Patel A. Bathinda to Bikaner: My experience of the "cancer train". *Cancer Res Stat Treat* 2021;4:208-10.
- Sankaranarayanan R, Masuyer E, Swaminathan R, Ferlay J, Whelan S. Head and neck cancer: A global perspective on epidemiology and prognosis. *Anticancer Res* 1998;6B: 4779-86.
- Gupta MD. Selective discrimination against female children in rural Punjab, India. *Popul Dev Rev* 1987;13:77-100.
- Fikree FF, Pasha O. Role of gender in health disparity: The South Asian context. *BMJ* 2004;328:823-6.
- Hill K, Upchurch DM. Gender differences in child health: Evidence from the demographic and health surveys. *Popul Dev Rev* 1995;21:127- 51.
- Shah SP, Praveen BN. Awareness of oral cancer in rural Bangalore population: A questionnaire based study. *Int J Sci Study* 2014;1:14-6.
- Konduru R, Newtonraj A, Arun S, Velavan A, Singh Z. Oral cancer awareness of the general public in coastal village areas of Tamil Nadu, India: A population based cross sectional study. *Int J Community Med Public Health* 2016;3:1932-9.
- Thilak GT, D'leema R, Kamath V. Oral cancer awareness in rural Karnataka- Are they aware? *Nitte Univ J Health Sci* 2015;5:19-23.
- Sahoo S, Suvarna S, Chandra A, Wahi S, Kumar P, Khanna G. Prevalence based epidemiological cancer statistics: A brief assessment from different populations in India. *Oral Health Dent Manag* 2013;12:132-7.
- Available from: https://www.tobaccofreekids.org/assets/global/pdfs/en/GATS_India_2016-17_FactSheet.pdf. [Last accessed on 2023 September 09].
- Sharma S, Singh M, Lal P, Goel S. Predictors of tobacco use among youth in India: GATS 2009-2010 survey. *Asian Pac J Cancer Prev* 2015;16:7535-40.
- Cancela MD, Ramadas K, Fayette JM, Thomas G, Muwonge R, Chapuis F, et al. Alcohol intake and oral cavity cancer risk among men in a prospective study in Kerala, India. *Community Dent Oral Epidemiol* 2009;37:342-9.
- Gupta PC, Mehta FS, Pindborg JJ. Intervention study for primary prevention of oral cancer among 36,000 Indian tobacco users. *Lancet* 1986;1:1235-8.
- Khandekar PS, Bagdey PS, Tiwari RR. Oral cancer and some epidemiological factors: A hospital based study. *Indian J Community Med* 2006;31:157-59.
- Bhattacharyya P, Mukherjee D, Barman S, Dey T, Biswas J. Factors responsible for the diagnostic delay in oral cancer patients: A hospital based sociodemographic study in Kolkata. *Bengal J Otolaryngol Head Neck Surg* 2016;24:141-7.
- Kumar S, Agarwal SP, Gupta CK. Investigation of factors causing delay in the treatment of oral mucosal cancer. *Indian J Oral Maxillofac Surg* 1993;8:41-7.
- Jayalekshmi PA, Gangadharan P, Akiba S, Nair RR, Tsuji M, Rajan B. Tobacco chewing and female oral cavity cancer risk in Karunagappally cohort, India. *Br J Cancer* 2009;100:848-52.
- Elango JK, Gangadharan P, Sumithra S, Kuriakose MA. Trends of head and neck cancers in urban and rural India. *Asian Pac J Cancer Prev* 2006;7:108-12.
- Raja BK, Devi VN. Prevalence of tobacco use among school-going adolescents in India: A systematic review of the literature. *Cancer Res Stat Treat* 2018;1:110-5.