Original Article

Estimation of Knowledge, Attitude, and Practice of Oral Premalignant Conditions among the Common People

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Abstract

Context: Oral precancerous conditions and oral cancer are a serious concern for both the general public and medical professionals. Early diagnosis of oral cancer helps to save a life. **Aim**: A questionnaire-based research was done for knowledge, attitude, and practice (KAP) on oral cancer and oral premalignant conditions among common people. **Materials and Method**: A 22 pretested and structured questionnaire-based survey was done on 320 participants to evaluate the KAP about oral premalignant conditions. The obtained data were statistically assessed using SPSS 22.0 software. **Results**: Out of 326, 320 participants responded for the survey. The study had a response rate of 97.5%. Dental problems in post-COVID19 were detected in 10.6%. About 136 (42.5%) subjects were conscious about the causes of oral cancer, and 205 (64%) participants knew that regular dental checkup can help in early recognition of oral cancer. Participants had average to good knowledge about oral precancer conditions. Knowledge of participants was statistically significant ($P < 0.05$). 84% knew that oral cancer can be diagnosed by dentists. About 268 (83.8%) participants knew that oral screening camps can help to detect precancer or early stages of oral cancer. About 82.5% were willing to know about the risk factors causes for oral cancer. About 8.7% subjects had attended oral health screening (checkup) camps/programs. **Conclusion**: The knowledge, awareness, and attitude of participants in the present study were average to good. Early recognition of oral cancer can improve patients' quality of life. Attention should be focused to improve awareness and educational initiatives about oral precancerous conditions among the general public.

Keywords: Awareness, early recognition, oral cancer, oral premalignant condition

Introduction

Oral cancer is one of the most common cancers that are becoming a serious issue in many parts of the world. The sixth most prevalent type of cancer worldwide is oral cancer.[1] In India, oral cancer ranks third among other frequent types as a leading cause of death and morbidity for the general public.[2]

Oral cancer is a serious concern for both the general public and medical professionals due to its continually increasing occurrence. Accurate diagnosis and early detection are essential for successful therapy and better patient outcomes. This calls for a thorough comprehension of the risk factors, clinical manifestations, and diagnostic techniques of oral cancer.[3]

The geographic distribution of oral cancer varies significantly, with greater incidence rates with particular risk factors, such as eating betel nut, drinking alcohol, and poor oral hygiene.[4] Multiple factors, including genetic predisposition, environmental exposures, lifestyle, and viral infections [human papillomavirus (HPV), namely, HPV-16], are causes for oral cancer. Either smoked or smokeless, tobacco use is still a major risk factor.[5]

Many of these tumors are asymptomatic in their early stages, which leads to the majority of them being identified

Access this article online

Quick Response Code:

Website: www.njbcs.net

DOI: 10.4103/njbcs.njbcs_37_24

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Submitted: 28-Apr-2024 **Revised:** 19-Dec-2024
Accepted: 02-Jan-2025 **Published:** ***

How to cite this article: Goel R, Makwana N, Vaishnav K, Almutairi BM, Mohsin SF, Patel A, *et al*. Estimation of knowledge, attitude, and practice of oral premalignant conditions among the common people. Niger J Basic Clin Sci 2025;XX:XX-XX.

in advanced stages. Because of their ignorance, patients are usually at blame for delays in the diagnostic process.[6]

A class of lesions and illnesses known as potentially malignant disorders (PMDs) have the potential to develop into mouth cancer. They consist of a collection of mucosal lesions that are clinically suspicious, including lichen planus in the oral cavity, leukoplakia, erythroplakia, and submucosal fibrosis. One important sign that aids in identifying any potential malignant change in these lesions is the presence of dysplasia. PMDs should be detected and treated as soon as possible because this lowers the death rate.[7] Oral precancerous lesions if untreated can lead to oral cancer. Oral cancer, which can affect the lips, gums, tongue, cheeks, mouth's floor, and the soft and hard palate, is a serious public health issue.[8] Previous studies have demonstrated that a delayed diagnosis and an inadequate prognosis can result from a lack of public knowledge on the warning symptoms, signs, and risk factors of oral cancer.[9,10]

The strategies for avoiding oral cancer incorporated in the World Health Organization's (WHO) Global Oral Health Programs are lowering exposure to risk factors and detecting the disease early through screening.[11]

About 35,000 Americans received an oral cancer diagnosis in 2008, the third consecutive year that the incidence of oral cancer has increased, according to NCI data. A total of 35,720 individuals (25,240 men and 10,480 women) received a diagnosis of oral and pharyngeal cancer in 2009; roughly 7600 of these individuals lost their lives.[12] Precancerous conditions are increasing in India due to increased use of tobacco-related products. Eighty percent of oral cancers in India were preceded by oral potentially malignant disorders (OPMDs), according to one of the first epidemiological studies evaluating the risk of oral premalignant diseases.[13] Squamous cell carcinoma (SCC) accounts for 90–95% of oral cancer cases in India.[2]

Riba *et al.*[2] conducted a questionnaire survey about knowledge, attitude, and practice (KAP) about oral cancer among dentists in northern India and found that they had good to average knowledge and attitude. Lakra *et al.* assessed about knowledge on oral cancer among cancer patients and concluded that their awareness was poor and some of them still continue with tobacco consumption habit.[14] The studies on general public related to KAP about oral precancerous condition are very scarce. The KAP of public helps in self early detection of precancerous conditions and early dental check, and prompt treatment can save the life of a person.

Hence, the current questionnaire-based research was done to evaluate the KAP on oral cancer and oral premalignant conditions among common people.

Methodology

Study design

This cross-sectional research was done on KAP on recognition of oral premalignant lesions among common people of Ahmadabad city. A pilot research was done to determine the questionnaire's validity and feasibility. A panel of four subject matter experts evaluated the questionnaire's validity prior to the start of the study and made any required revisions. The pretested closed-ended questionnaire in English and Gujarati language comprised 22 questions with demographic details and eight on knowledge, eight on attitude, and six on practice about oral cancer and oral premalignant conditions. A two-point dichotomous scale, with yes and no as the extremes, was used to assess the questionnaire replies. Anonymous responses to the questionnaire were requested from the participants.

***Sampling procedure*:** Participants who did not respond back and who responded incompletely to the questionnaire were expelled from the present research. The ethical clearance was obtained from the Institutional Review Board of Karnavati School of Dentistry No: KSDEC/22-23/February/012. All participants gave their informed consent. The study was done from June 2023 to December 2023. A snowball sampling technique was used to include the samples. A total of 326 questionnaire forms were distributed in digital Google forms. About a week was allotted to the participants to finish the questionnaire.

Statistical analysis

SPSS statistical software, version 23.0, was used to statistically analyze the collected data using the Chi-square test and $P < 0.05$.

Results

Out 326, 320 participants responded for the survey. The study had a response rate of 97.5%. More than half of the subjects, 51.3% (n-164), were males, and 48.7% (n-156) were females.

Table 1 indicates that among the participants for the study, the maximum were males (56.3%), 41.3% belong to the age group of 35–44 years, 82.8% were married, and 40% were working since 6–10 years. 57.8% belonged to poor class. The difference was significant, 0.05.

Frequency distribution with history of habit and oral conditions was highly significant ($P < 0.001$). The majority of the participants, 93.1%, had no smoking and smokeless tobacco habit, and 6.9% (n-22) participants had history of tobacco intake in smoke and smokeless forms. Ulcers were present in 84.7% (n-271) participants with the complaint of burning sensation in only 15.3% (n-49) participants. All the participants, 100% (n-320), had no persistent burning sensation. COVID-19 was positive in 39.4% (n-126) participants, and 60.6% (n-194) participants were not affected with COVID-19. Dental problems post COVID-19 were detected in 10.6% (n-34) and not detected in 89.4% (n-286) participants, respectively [Table 2]. The variation was statistically considerable ($P < 0.001$).

Table 3 demonstrates the participants' high level of expertise. 123 (38.4%) of the 320 participants had either heard of or seen people with oral cancer. The causes of oral cancer were known to about 136 (42.5%) of the participants, and 205 (64%), that

Table 1: Demographic attribute of the participants

Demographic data		Number (n)	Percentage (%)
Age	25-34 years	81	25.3%
	35-44 years	132	41.3%
	45-54 years	107	33.4%
Gender	Male	180	56.3%
	Female	140	43.7%
Marital status	Married	265	82.8%
	Unmarried	55	17.2%
Socioeconomic status	Poor class	185	57.8%
	Middle class	135	42.2%
Working experience	1-5 years	87	27.2%
	6-10 years	128	40.0%
	11-20 years	105	32.8%
Total		320	100

Table 2: Frequency distribution with history of habit and oral conditions

Sl No.	Conditions	Yes (%)	No (%)	P
1	History of smoking and tobacco habit	22 (6.9%)	298 (93.1%)	0.001
2	Alcohol habit	23 (7.2%)	297 (92.8%)	
3	Presence of oral ulcers	271 (84.7%)	49 (15.3%)	
4	Persistent burning sensation	0	320 (100%)	
5	Covid-19 condition	126 (39.4%)	194 (60.6%)	
6	Dental problems with post-COVID-19	34 (10.6%)	286 (89.4%)	

Table 3: Good knowledge about oral cancer and oral premalignant conditions

Questions	Mean±S.D	Yes, Frequency (n=320)
1. Heard or seen patients of oral cancer	1.21±0.354	123 (38.4%)
2. Awareness about causes of oral cancer due to tobacco and alcohol consumption	1.32±0.376	136 (42.5%)
3. Need of regular dental checkup for oral cancer	1.58±0.325	205 (64%)
4. Idea of how an oral precancer and cancer looks like.	1.02±0.134	21 (6.6%)
5. Oral cancer and precancer are always associated with pain	1.20±0.243	84 (26.2%)
6. Red/white patches or ulcers in mouth may lead to oral cancer.	1.30±0.534	92 (28.7%)
7. Oral cancer occurs in only those with family history	1.52±0.083	184 (57.5%)
8. Oral precancer and cancer can be diagnosed (detected) at early stages by dentist	1.15±0.245	269 (84%)
TOTAL Mean	10.3±2.294	

routine dental examinations or oral screenings can aid in the early diagnosis of oral cancer. Just 21 individuals (6.6%) know what a precancer condition (a condition that could progress to cancer) looks like. Just 92 individuals (28.7%) agreed that red or white patches or ulcers in the mouth may develop to oral cancer, whereas 84 participants (26.2%) believed that oral cancer and precancer are invariably accompanied by discomfort. Of the 184 participants, more over half (57.5%) think that mouth cancer is a hereditary condition that only affects people with a family history. The vast majority of participants (269, or 84%) were aware that oral cancer can be identified early on by a dentist. The participants knew a lot about precancerous diseases of the mouth. Participants' knowledge was significant ($P < 0.05$).

Table 4 indicates the frequency of good attitude. More than half participants, 186 (58.1%), agreed that an ulcer persisting more than 2 weeks may cause oral cancer, and 245 (76.6%) participants were aware that habit cessation can prevent oral precancer and oral cancer. About 268 (83.8%) participants knew that oral screening camps can help to detect precancer or early stages of oral cancer, and 251 (78.4%) agreed that detection of oral cancer improves the survival rate of the patient. About 82.5% were willing to know about the risk factors and causes for oral cancer. The attitude of participants was statistically considerable ($P < 0.05$).

Table 5 shows the frequency of good practice among participants. About 136 (42.5%) participants check mouth regularly for any red/white patches and ulcers, 183 (57.2%) had visited dentists, and only 138 (43.1%) participants informed that dentists asked about the habits like smoking and gutka/pan/tobacco chewing. Only 83 (25.9%) participants often visit dentists for their oral health checkup, 28 (8.7%) participants had attended oral health screening (checkup) camps/programs, and 18 (5.6%) participants attended any oral cancer awareness/education programs.

Discussion

Oral cancer is the most prevalent type of head and neck cancer. The prognosis and results can be greatly enhanced by early diagnosis of precancerous and cancerous lesions, particularly erythroplakia and leukoplakia, which have a high likelihood of developing into cancer.[4]

The current research was done to assess and evaluate the knowledge, attitude, and practices among the individuals. In the present study, the KAP about oral precancerous conditions among common people was average to good. Many of the participants are willing to know more about the causes and prevention for oral cancer.

According to the knowledge questionnaire, 64% of the population knew that routine dental checkups aid in the early detection of oral cancer, while 42% of the study population knew about the relationship between the occurrence of oral cancer and alcohol and tobacco use. This is consistent with a study by Fotedar *et al.*,[15] Shodan *et al.*,[16] and Razavi *et al.*,[17] who found that over half of the general population is unaware of oral cancer, while Muthanandam M *et al.*[18] in their study found that 47% of the study population was aware of precancerous conditions.

Table 4: Attitude about oral cancer and oral premalignant conditions

Questions	Mean value±SD	Yes (n=320) Frequency and%
1. Ulcer persisting more than 2 weeks may cause oral cancer	1.43±0.354	186 (58.1%)
2. Habit termination can prevent oral precancer	1.65±0.352	245 (76.6%)
3. Oral precancer can be detected with oral health screening camps	1.76±0.356	268 (83.8%)
4. Detection of oral cancer improves the survival rate of the patient	1.65±0.353	251 (78.4%)
5. Cancer is not transmissible disease	1.64±0.235	251 (78.4%)
6. Willing to know about the risk factors and causes for oral cancer	1.73±0.234	264 (82.5%)
7. Habit continuation can worsen the condition	1.47±0.357	278 (86.9%)
8. Health awareness is needed to prevent cancer	1.56±0.315	269 (84%)

Table 5: Good practice to prevent oral premalignant conditions

Questions	Mean value±SD	Yes (*n*=320) Frequency and%
1. Regular check of mouth for red/ white patches and ulcers	1.25±0.243	136 (42.5%)
2. Visited dentist for red and white patches	1.57±0.345	183 (57.2%)
3. Informed dentist about smoking and tobacco habit	1.37±0.235	138 (43.1%)
4. Regularly visited dentist for oral health checkup	1.43±0.265	83 (25.9%)
5. Attended oral health screening (checkup) camps/programs	1.02±0.345	28 (8.7%)
6. Attended any oral cancer awareness/ education programs.	1.01±0.423	18 (5.6%)
Total Mean	7.65±1.856	

In the present study, about 83.8% participants knew that oral screening camps can help to detect precancer conditions. This finding is consistent with a study conducted by Anirudh *et al.*[19] The majority of respondents (72.7%) expressed interest in learning more about the risk factors, symptoms, and indicators of oral cancer.

Jamuda *et al.*[20] concluded from their study that the KAP of students was inadequate. Zachar *et al.*[21] study showed that most of the patients were aware of oral cancer in New South Wales. Firincioglulari *et al.*[10] evaluated the awareness and knowledge levels on oral cancer symptoms and risk factors among patients with questionnaire survey. They found that most of the members were aware that tobacco cessation reduces the risk of oral cancer. Rupel *et al.*[22] assessed the KAP about oral cancer among the general public and suggested that there is a need for awareness to them. According to the Suárez-Fernández *et al.*[23] survey, there is a concerning lack of information and awareness of oral cancer among Asturians, particularly among those under 50 years of age. It was proposed that raising their level of knowledge would increase the likelihood that future awareness initiatives would be successful. According to a study by Gupta *et al.*,[13] people were deterred from getting an oral cancer screening because they were afraid of pain and discomfort throughout the process. This highlights the necessity of addressing these worries through educational initiatives.

Limitations of the study: The study's weaknesses were that the sample comprised both urban and rural residents with and without education. The KAP percentages may have been impacted by the sample's exclusive rural and uneducated patients. Since people in rural areas are less aware of the lesions, further research is advised there. A smaller sample size and snowball sampling method may introduce selection bias, which is a limitation of the study.

Future prospects: In order to decrease the delayed diagnosis of oral cancer and premalignancies, oral cancer awareness campaigns and oral health education initiatives at the rural level are crucial. Increasing the general public's positive attitude toward early identification of oral cancer can undoubtedly help bring about a larger social transformation by lowering the death rate. The likelihood of a cure and a better prognosis are significantly increased when oral cancer is detected early.

This study offers a platform for discussion on the sociodemographic aspects influencing patients' lack of knowledge and awareness about oral cancer, which has broad implications for public health professionals as well as doctors. Additionally, this study found a crucial pathway that would enable future education campaigns to take a more focused approach.

Conclusion

According to the current survey, most of participants were aware about early detection of oral cancer and the majority of the participants were willing to know about causes for oral cancer and the need of awareness programs. Targeted awareness campaigns and educational initiatives should emphasize raising awareness of risk factors, encouraging self-examinations and routine dental appointments, and fostering positive attitudes toward early diagnosis in order to close the gap. Implementation of awareness programs and screening camps with public engagement helps to diagnose and to prevent development of oral premalignant conditions.

Availability of data and materials

The datasets analysed in this study are freely provided.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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