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A Survey Study To Assess The Knowledge And Awareness Regarding Oral Cancer Among The Dental Students, General Dentists And Dental Specialists In India

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Abstract:
Background: *India ranks 4th with the highest number of oral cancer cases. Dentists are generally the first group to examine the oral cavity, therefore they should be well versed with the signs and symptoms of oral cancer. This survey therefore aims to assess the knowledge and awareness of dental students, general dental practitioners and dental specialists regarding oral cancer in India.*
Materials and method: *A well-structured survey consisting of 17 questions was made with the help of google forms and was carried out to dentists and dental students in India through various social media platforms.*
Results: *A total of 278 responses were received. 193 were dental students, 44 general dental practitioners and 41 dental specialists participated in the survey. 24.1% participants did not agree with tobacco being the most important predisposing factor for oral cancer. 34.9% participants were not aware of 2 weeks being the minimum time to differentiate a malignant lesion from an inflammatory lesion. 98.6% participants believed in early diagnosis improving the prognosis of oral cancer.*
Conclusion: *There is insufficient knowledge in certain areas regarding oral cancer among the dentists and dental students in India. Increasing efforts should be made to motivate dentists and healthcare professionals to update their knowledge and awareness. Therefore with continuous effort we might be successful in early detection of oral cancer thereby improving the prognosis of the disease.*

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I. Introduction

Cancer of the lip and oral cavity accounts for being the 16th most common cancer worldwide, with India ranking as the 4th country with the highest number of oral cancer cases according to the American Institute for Cancer Research (2018)[1, 2]. The World Health Organisation has estimated around 6,57,000 new cases of oral cancer each year with more than 3,33,000 reported deaths . There are various risk factors associated with tobacco and alcohol use being the most common. Other risk factors involved are - genetics, human papillomavirus (HPV), poor nutrition, gender, age, weakened immune system, genetic syndromes as well as poor oral health[3-6].

The clinical features can vary from asymptomatic to changes in color, texture associated with pain. More often it is asymptomatic and shows no signs of malignancy which often leads to skipping of detection of oral cancer lesions in its early stages[3]. Generally about 40% of patients do not report until there is a progression to advanced 3rd or 4th stage which is associated with lymph node metastasis. This requires aggressive treatment and is generally shown to have a poor prognosis. Therefore in order to have a good prognosis it is essential that clinicians as well as patients are able to detect oral cancer lesions in its early stages with the help or routine oral examinations.

The conventional method of oral cancer examination is still a gold standard method of screening the oral cavity for malignant and potentially malignant lesions[7, 8]. Since dentists are well versed with the health and structures of the oral cavity, they might be the first group to examine the patients and help in detection of oral cancer lesions in its early stages .This will lead to a definitely better prognosis and inturn increase the life

expectancy and overall health of the patients suffering from oral cancer[9-12]. Lack of awareness is an important factor in not being able to diagnose malignant as well as potentially malignant lesions of the oral cavity in its early stages .Although quite a few surveys have been conducted to assess the knowledge of dentists regarding oral cancer, there has been no conclusive study which evaluates the knowledge of dentists in India . Therefore this survey aims at comprehensively evaluating the knowledge of dentists as well as budding dentists regarding oral cancer in India.

II. Materials and Methods:

This questionnaire survey was conducted among dental students, general dental practitioners and dental specialists in India, to study the knowledge and awareness of people regarding oral cancer. The members' suppositions concerning their thoughts on Oral Cancer were recorded utilizing an exceptionally structured survey. The questionnaire was formed by reviewing published literature assessing knowledge and awareness of dentists and dental students regarding oral cancer[13-17]. A survey form was made with google forms and was sent to the participants through various social media platforms and was given the set of instructions on how to complete the entire form of 17 questions. A list of the questions is given below.

Serial Number	**Questions**
1.	Are you a dental student, general dentist or dental specialist ?
2.	Is Squamous cell carcinoma the most common type of oral cancer ?
3.	Is leukoplakia the most common precancerous lesion of the oral cavity?
4.	Tongue is the most common site for oral cancer?
5.	Tobacco is the most important predisposing factor for oral cancer?
6.	2 weeks is the minimum time needed to differentiate a malignant lesion from an inflammatory lesion.
7.	Oral cancer is more prevalent in males compared to females.
8.	Human Papillomavirus (HPV) is a causative agent for oral cancer.
9.	People greater than 45 years of age are at a greater risk for developing oral cancer .
10.	Oral Cancer is a contagious disease.
11.	People with poor oral hygiene are more susceptible to oral cancer.
12.	Submandibular lymph nodes are first place for metastasis of oral cancer.
13.	Lung is the most common site for distant metastasis of oral cancer .
14.	Floor of the mouth is the most likely area for malignant transformation of precancerous lesions.
15.	Lower lip is the area with better prognosis of oral cancer.
16.	Early diagnosis improves the recovery from oral cancer .
17.	Surgery is the best treatment modality for treating oral cancer .

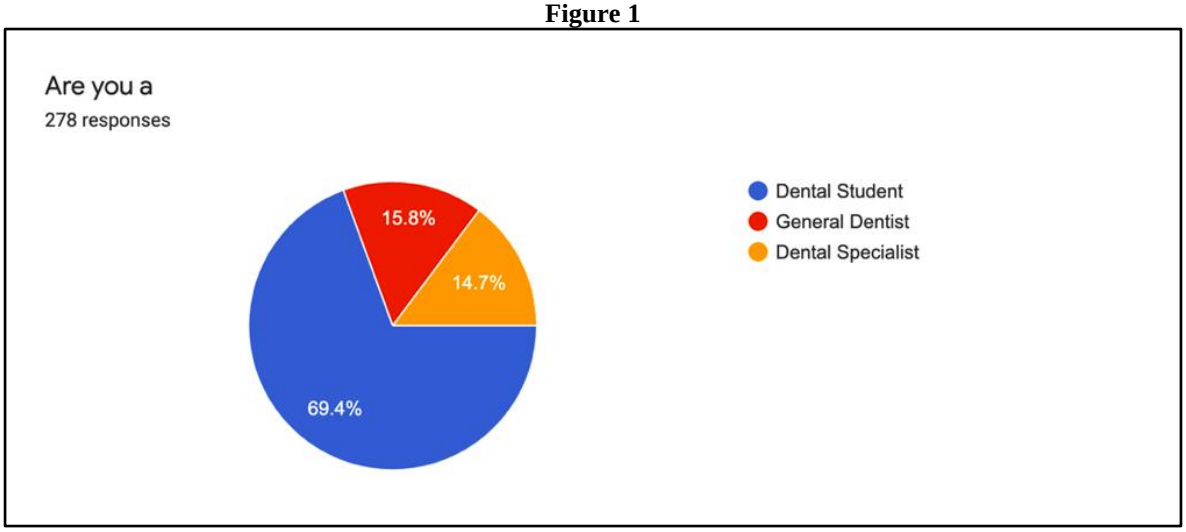
Data Collection:

The study protocol was explained to the participants and the participants were requested to fill the questionnaire that had a total of sixteen questions related to awareness regarding oral cancer among dental students, general dental practitioners and dental specialists. For simplification and better understanding of the survey, all the questions had only two options: Yes/No. The instructions for filling the questionnaire were given and filled questionnaires were collected.

III. Results:

A total of 400 surveys were sent, out of which 278 responses were received. 193 dental students, 44 general dental practitioners and 41 dental specialists participated in the survey (Figure 1). 92.8% of the participants believed Squamous cell carcinoma to be the most common type of oral cancer (Figure 2) whereas 91.7% of the participants responded to leukoplakia as the most common precancerous lesion (Figure 3). 61.9% of the participants supported tongue as the most common site for oral cancer (Figure 4). 24.1% of the participants did not believe tobacco to be the most important predisposing factor for oral cancer (Figure 5). 34.9% of the participants were not aware of 2 weeks being the minimum time to differentiate a malignant lesion from an inflammatory lesion (Figure 6). Oral cancer is more prevalent in males compared to females, was supported by 89.6% of the participants (Figure 7). 75.9% of the participants believed human papilloma virus to be a causative factor for oral cancer (Figure 8). 84.9% of the participants were aware of people greater than 45 years of age of being at a greater risk for oral cancer (Figure 9). According to 7.2% of the participants oral cancer is a contagious disease (Figure 10). Around 70.9% of the participants supported poor oral hygiene to be one of the causes for oral cancer (Figure 11). 88.8% of the participants were aware of submandibular lymph nodes as the first site for metastasis of oral cancer (Figure 12) whereas 83.5% of the participants believed lungs to be the most common site for distant metastasis of oral cancer (Figure 13). 78.8% of the study participants conveyed the floor of the mouth as the most likely site for malignant transformation of precancerous lesion (Figure 14). According to 78.1% of the participants lower lip region had a better prognosis with oral cancer (Figure 15). 98.6% of the participants were aware of early diagnosis improving the recovery from oral cancer (Figure 16). However 20.1% of the participants did not believe surgery to be the best treatment modality for treating oral cancer (Figure 17).

Figure 1



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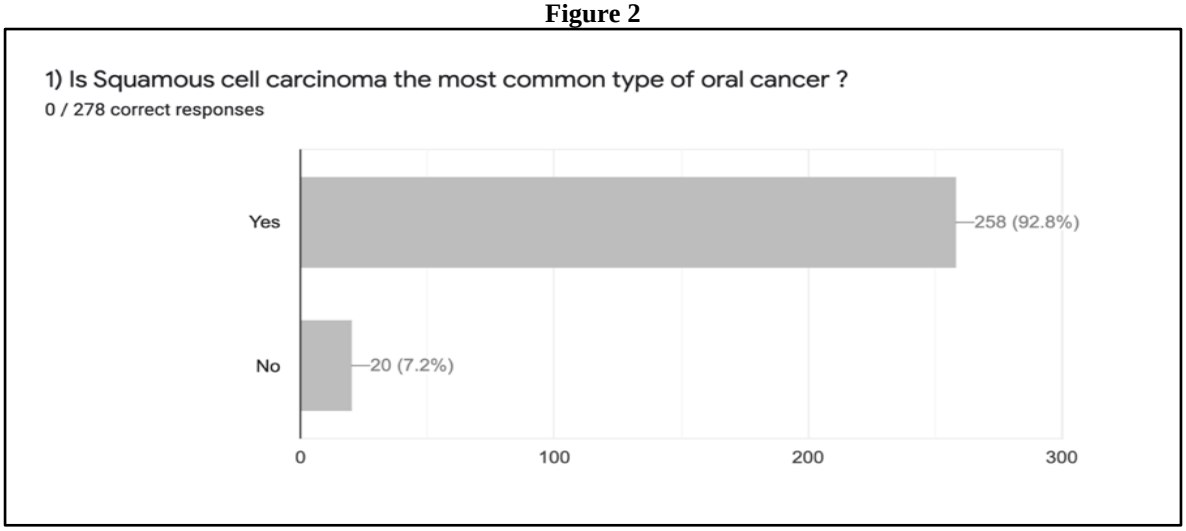

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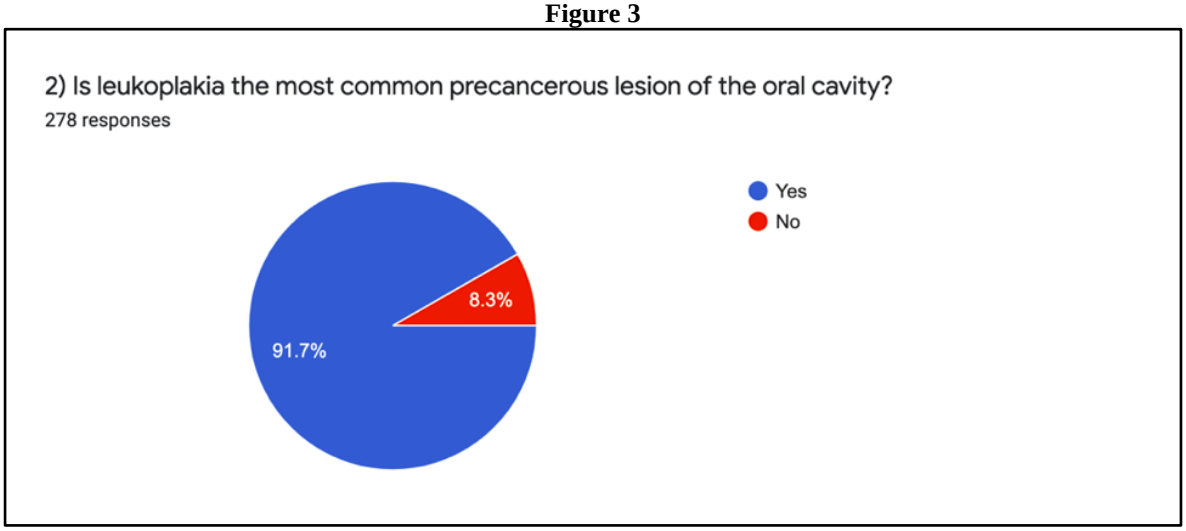

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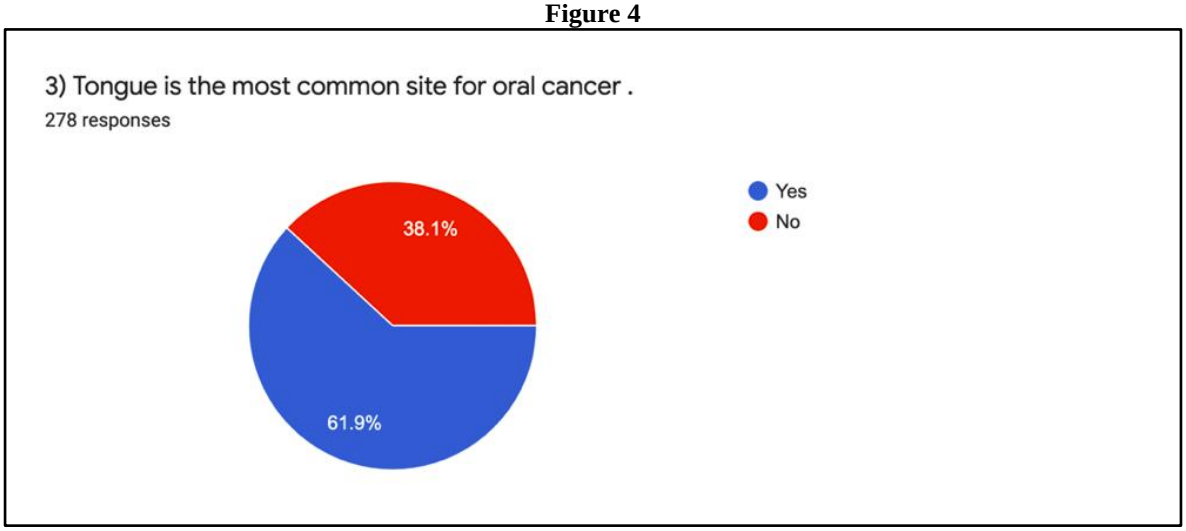

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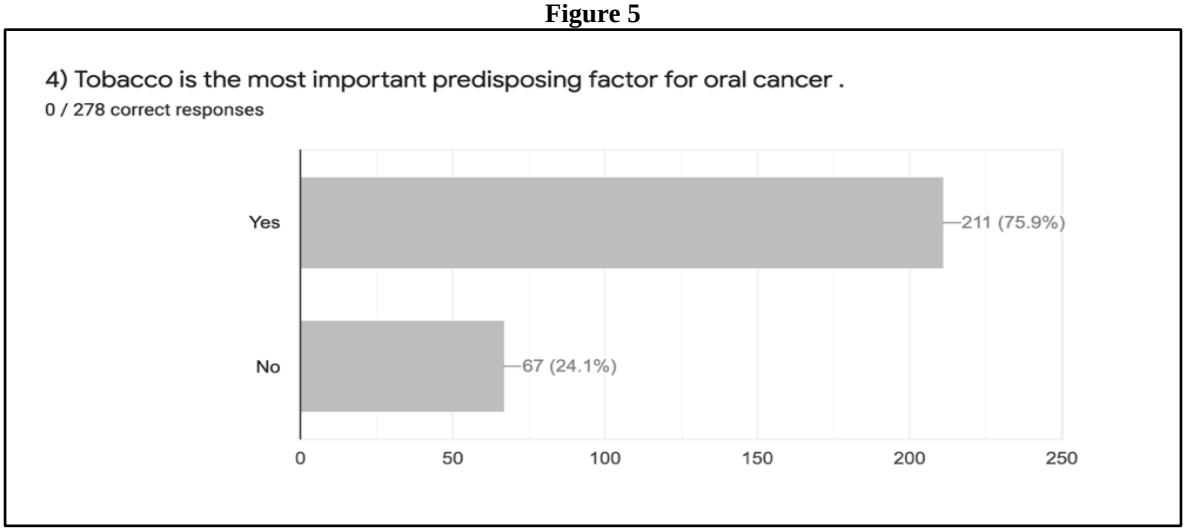

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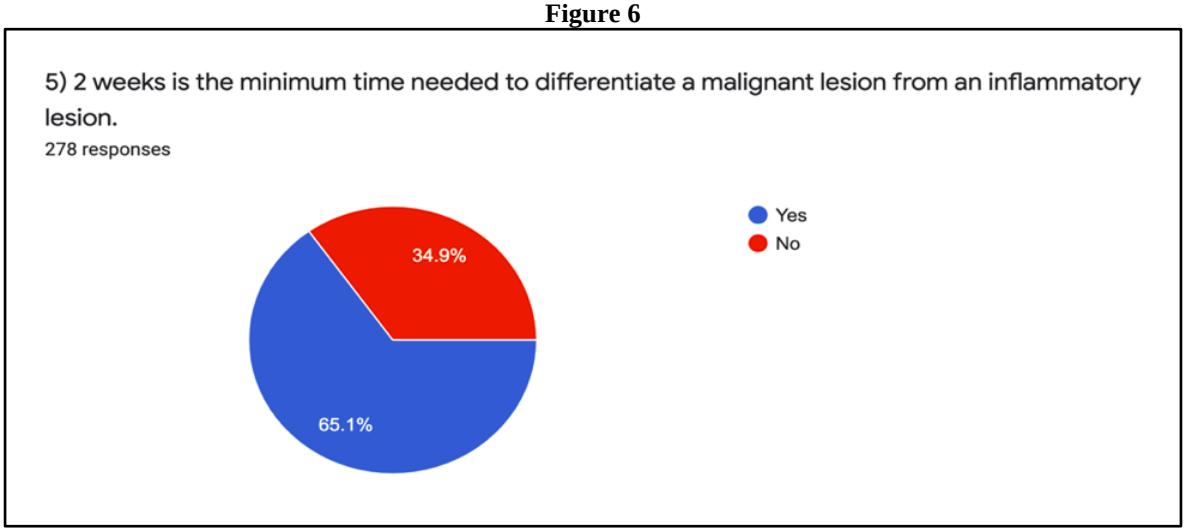

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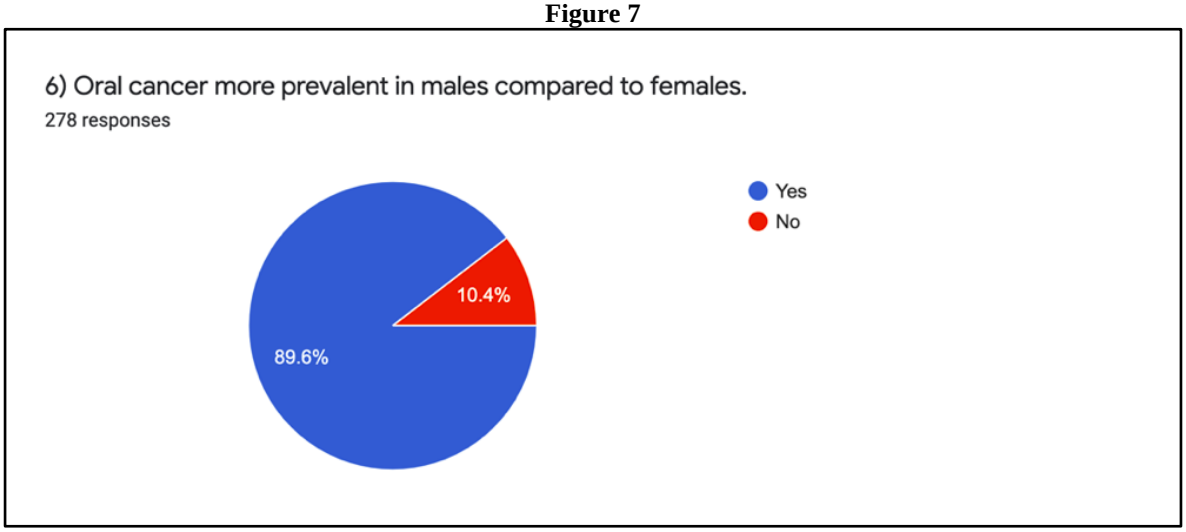

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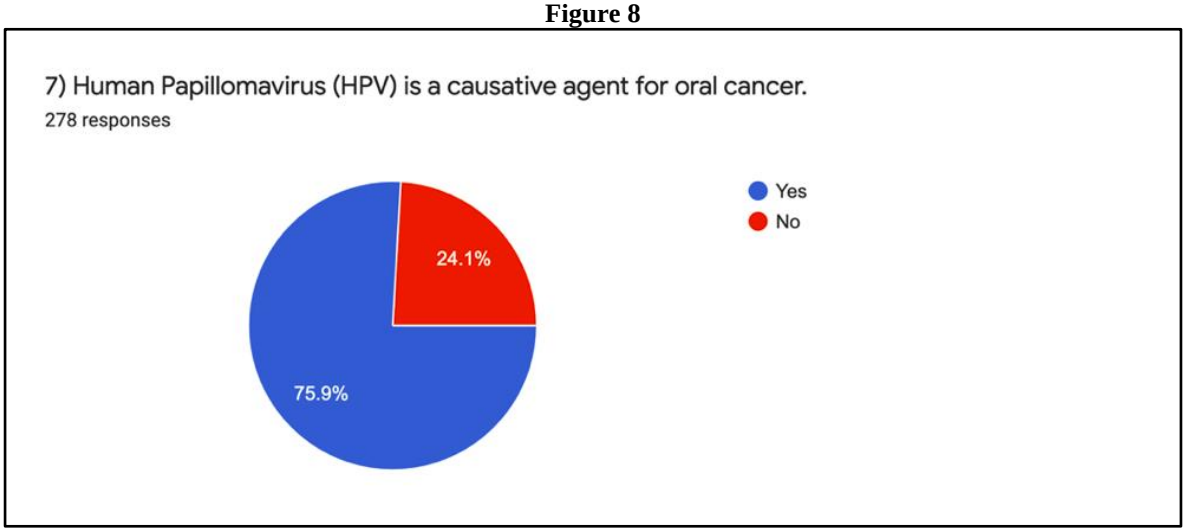

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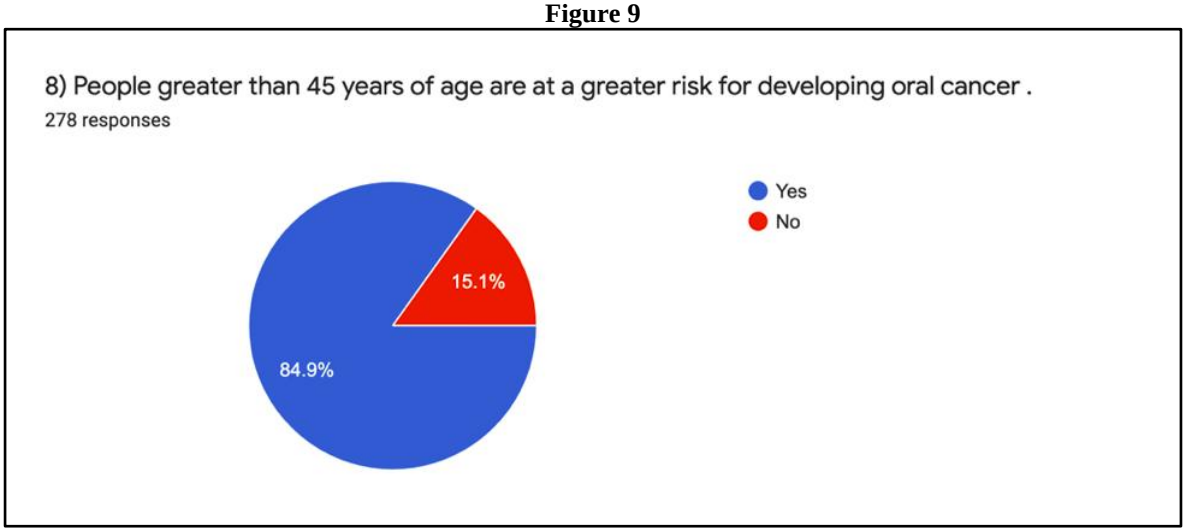

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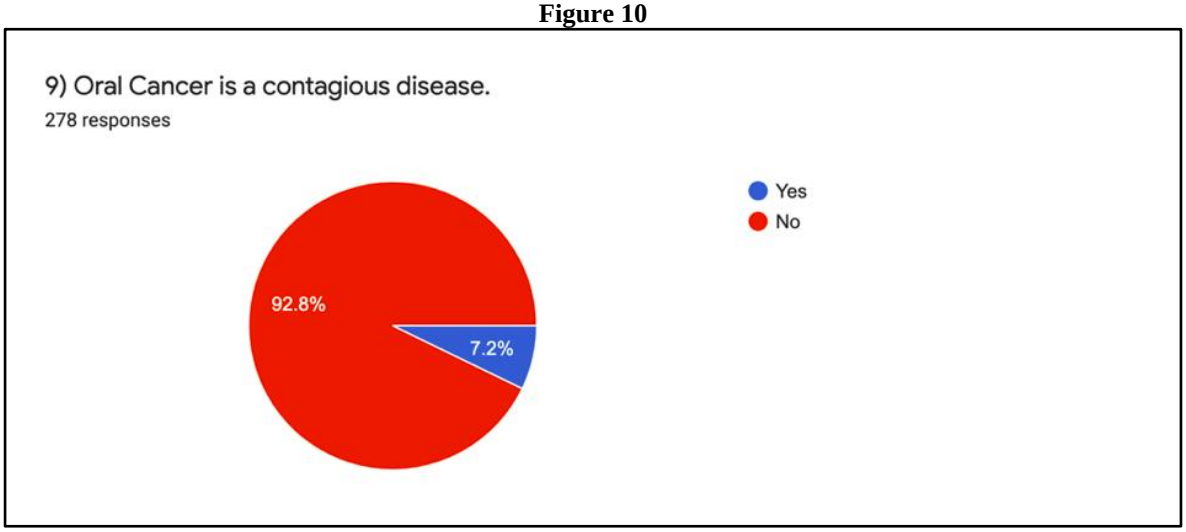

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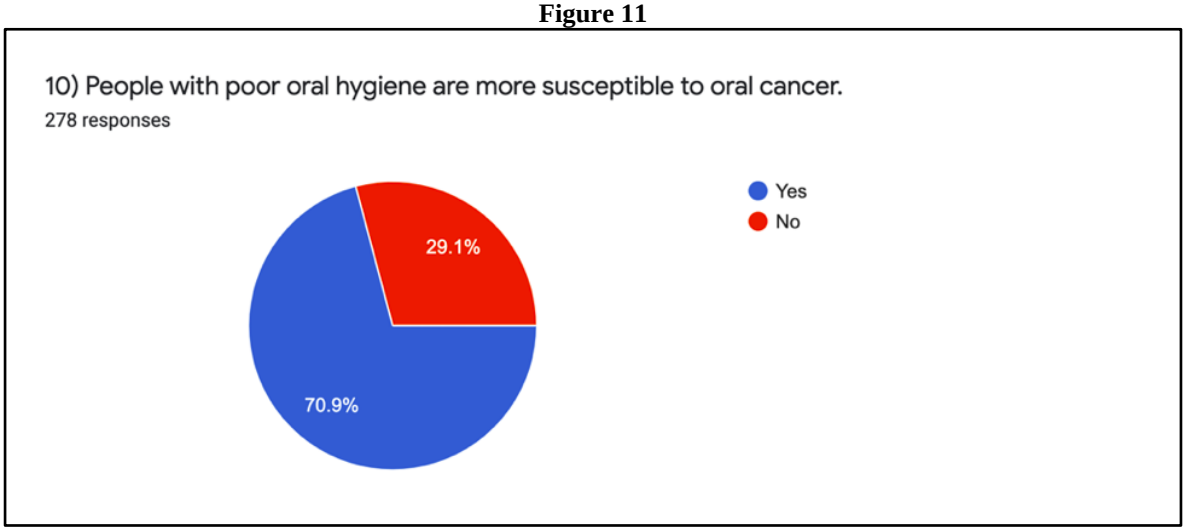

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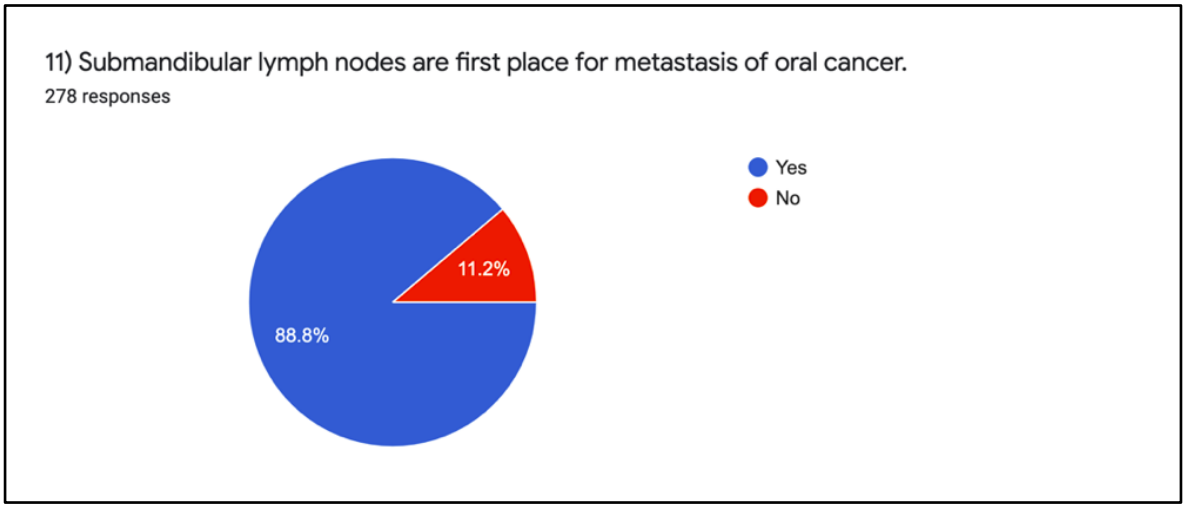

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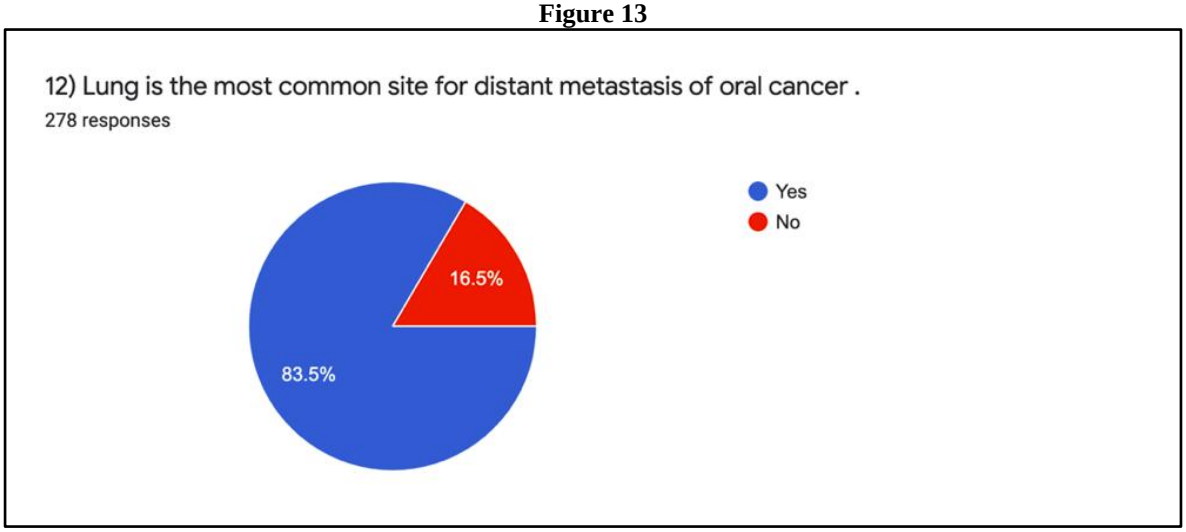

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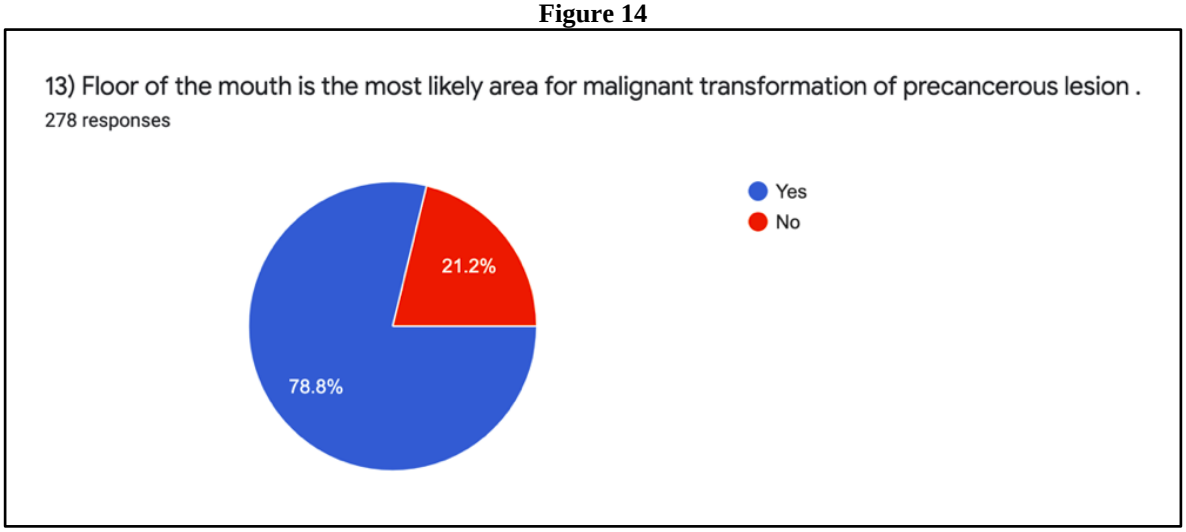


Figure 15

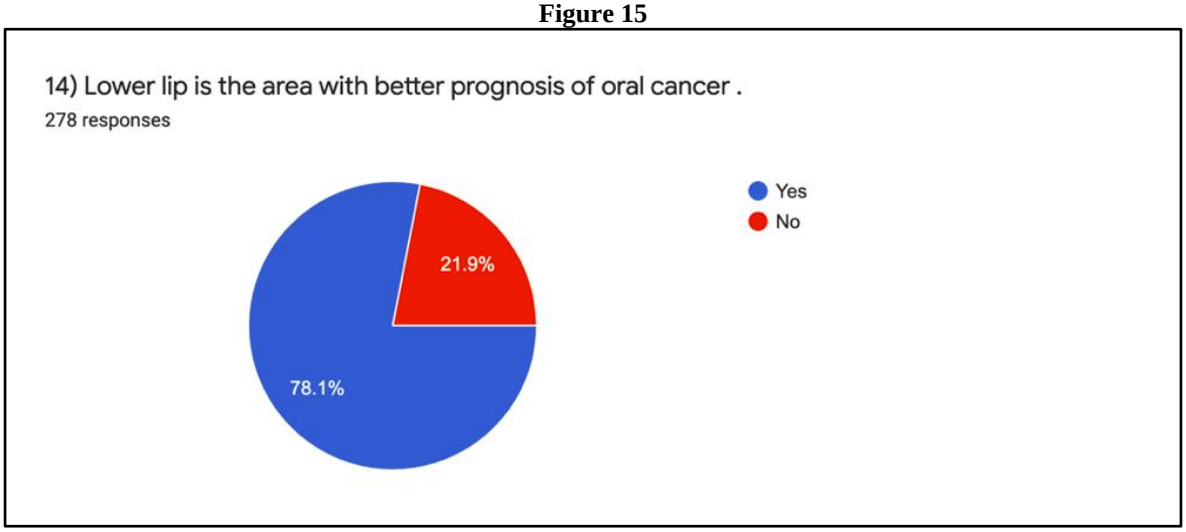


Figure 16

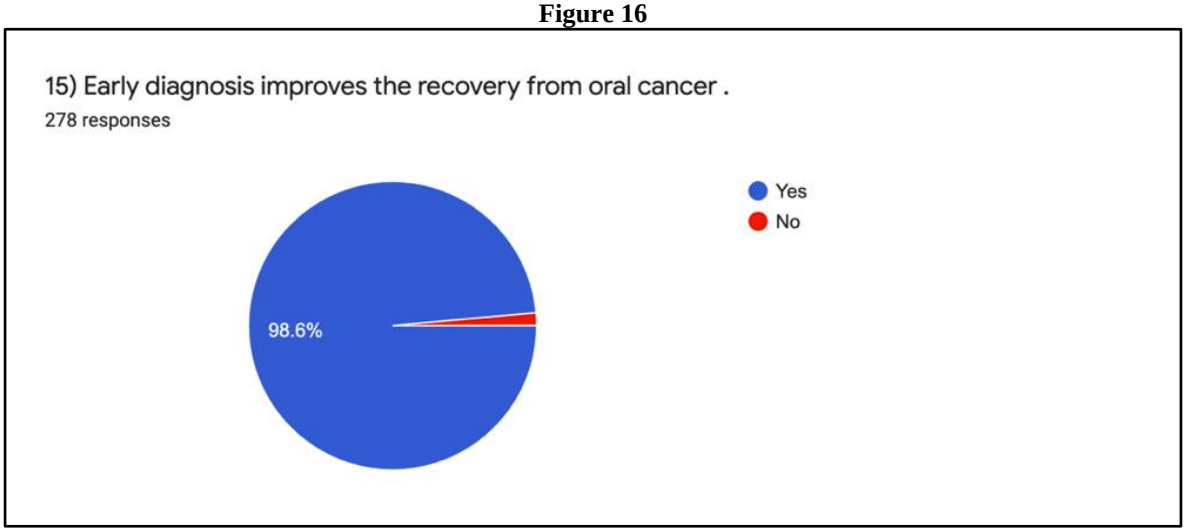
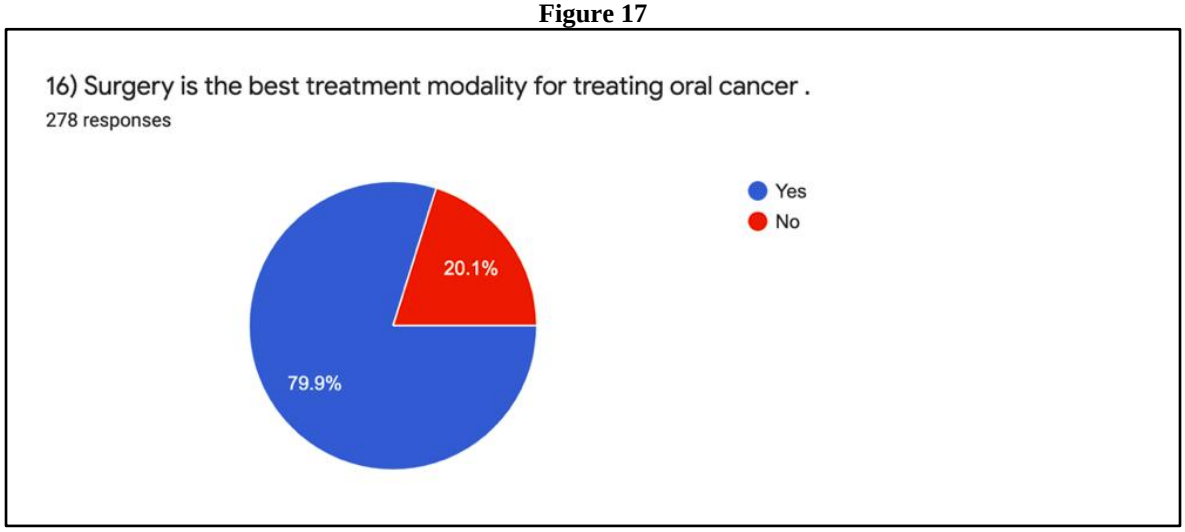


Figure 17



IV. Discussion:

The present study evaluates the knowledge and awareness of dental students, general dentists and dental specialists in India, regarding oral cancer. Dentists should have sufficient knowledge and awareness

regarding the signs and symptoms to enable detection and treatment of oral cancer in its early stages. In our comprehensive study around 75.9% of the selected participants agreed to tobacco as the most important predisposing factor for oral cancer. A study conducted in British Columbia in 2002 demonstrated 90% dentists favouring tobacco as an important risk factor whereas in another study conducted in India around 44% students considered tobacco as one of the main risk factors for developing oral cancer.

In the present study around 92.8% participants agreed to squamous cell carcinoma as the most common type of oral cancer. However, in a study conducted in Italy in 2008, only 30.2% of the participants supported squamous cell carcinoma as the most common type of oral cancer[18]. 81.2% and 87.2% participants in two studies carried out in Iran in 2014 pointed out to the accurate answer[19, 20]. In this study 61.9% of the participants selected tongue as the most frequent site for oral cancer. 50.5% dentists in a study conducted in Italy and 70.9% dentists in a similar study in Iran supported tongue as a common site for oral cancer development.

In our study around 84.9% of the participants considered 45 years and above as a significant risk factor for oral cancer. In a study conducted in Ireland in 2011, 56% of the dentists considered older age as a risk factor. In a study conducted in Chennai around 45% of dental students supported older age as a risk factor for oral cancer.

In this study 98.6% participants strongly believed early detection improves the recovery from oral cancer. In a similar study only 46% of dental students agreed to early detection improving survival rates. In a study conducted in Italy in 2008, only 52.3% of the dental practitioners performed a complete oral examination at the initial appointment. 84% of dentists performed a complete oral examination in every patient, according to a study in the UK whereas 81% of dentists performed a thorough examination according to a study in the US. Therefore, in order to detect oral cancer in its early stages, a community based education programme for dentists, health care practitioners and general population along with social policies are needed as was pointed out by a study in Iran in 2013[21, 22].

In summary, increased awareness regarding oral cancer among dental practitioners and other healthcare professionals is essential to decrease the burden of the disease. Increasing knowledge and taking necessary preventive measures by implementing public health programmes which are community based thereby enabling early detection to achieve a gradual and steady improvement in the prognosis of the disease. Dentists must be encouraged to continuously update their knowledge and awareness by attending educational programmes and seminars. Social policies and protocols must be implemented to make oral examination for cancerous and precancerous lesions a must at initial appointments for every patient. Public health programmes to make the population self-aware and enable them to identify and report any suspicious oral lesion to a healthcare professional must be carried out.

V. Conclusion

The results of this survey collectively show that the knowledge of dental students, dentists and dental specialists is inadequate in certain areas regarding oral cancer. Therefore every effort should be made to motivate dentists and healthcare professionals to continuously update their knowledge and awareness. Media could play a helping hand in educating the general population. Therefore with continuous effort we might be successful in early detection of oral cancer thereby improving the prognosis of the disease.

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