KNOWLEDGE ABOUT ORAL CANCER AMONG DENTAL STUDENTS –
A CROSS-SECTIONAL SURVEY

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ABSTRACT:

Introduction: Cancer of oral cavity is one of the most common malignancies of head and neck tumors. In India it is the third most common form of cancer. Dentists have an important role in controlling its etiological factors. Reason behind high incidence in India might be popularity and due to the usage of tobacco products which are considered to be risk factors for development of oral cancer.

Aim: This study was aimed to evaluate the knowledge about oral cancer among dental students.

Materials and methods: A cross sectional survey was conducted using self-administered questionnaires, through Google forms among 201 dental students from Tamil Nadu India. Statistics has been done and tabulated.

Results: Our study results show that majority of dental students are aware of etiology, types and risks factors of oral cancer.

Conclusion: Though the awareness and knowledge about oral cancer is high among dental students, there are still few areas where they lack adequate knowledge; these deficits can be rectified by encouraging them to attend regular cde programs, conferences, webinars and seminars related to oral cancer and their recent updates.

KEYWORDS: Oral cancer, risk factors, tobacco products, knowledge, awareness of oral cancer

INTRODUCTION:

Cancer is an important public health problem being the second leading cause of death in India. Its incidence is mostly high in the developing countries. Oral cancer has one of the highest mortality rates of all cancers as most of its cases are diagnosed in 3rd or 4th stage which has severe impact on their survival rate. Early detection of oral cancer has positive impact on survival rate as well as improves the quality of life. Dentists should do a thorough screening of oral cavity and should pay close attention to suspicious characteristics such as red or white ulcers or lesion and should be well aware whether the patient is exposed to tobacco or alcohol as dentists play a very critical role in early detection of oral cancer. Since it is easy to access oral cavity it gives more room for opportunistic screening for oral cancer. Hence dental practitioners must be given adequate practice and in-depth knowledge about oral cancer so that they would benefit many by early detection and better prognosis. As early diagnosis matters so much, each dentist experience is the symptoms differently hence proper and quick recognition of signs and symptoms are necessary. Oral cancers are sometimes asymptomatic hence ignorance of early signs along with delay in presentation and/or referral can be the delaying factor due to the less training of the dental practitioners in the oral pathologies.

MATERIALS AND METHODS:

This survey was done to clearly assess the awareness and knowledge of dental students about oral cancer. It was randomly done among the dental students residing in Chennai through Google
forms. The links of the Google forms were circulated via social media to reach 201 dental students within a time of 2 weeks. Dental students from 3rd year, 4th year, interns and Post-graduates participated in this study. This study was based on self-applied questionnaire based on student’s own perception composed of 15 questions hence it helps to assess the actual scenario about the knowledge and behavior of students. The actual purpose behind the study was well-explained to the participants. The questionnaire covered all the main aspects of oral cancer - the etiologic/risk factors, the clinical signs, the curability, adverse effects and the prognosis.

STATISTICAL ANALYSIS:

Nonprobability, convenient sampling technique was employed that yielded information from 201 random samples grouped into different categories of participants (interns, final year, third year and Post graduate students) were taken into this observational study having a cross-sectional design. Statistical analysis has been done using SPSS software Version 18.0.

RESULT:

A total of 201 dental students participated in this study. In category-wise study participants, it was observed 41.29% were interns, 25.37% were final year students, 16.41% were third year students and 16.91% were post-graduate students.

In this present study, only 7.8% of final years are aware about the risk of a smoker to get oral cancer whereas most of post graduates(2%) are unaware. Internship students (93.97%) and post graduate students (97.05%) are aware that oral cancer is related to human papilloma virus when compared to third year and final year students. On evaluating third year students (81.81%) are aware that tongue is the most commonly affected site of oral cancer whereas, interns and postgraduate student are unaware and responded to buccal mucosa as a commonly affected site(fig1).Most of the post graduate students (73.52%) are aware that most common type of oral cancer is squamous cell carcinoma(fig2). On evaluating the genetic inheritance of oral cancer of post graduate students (85.29%)know that oral cancer is genetically inherited.

80.3% of final year students aware that treatment of oral cancer depends on the type, size, grade, stage of oral cancer and general health(fig3).90.36% of interns are aware about the adverse effect of radiotherapy in head and neck cancer include trismus, radiation caries and osteoradionecrosis(fig4). 80.78% of interns are aware that lung is the secondary metastatic site of oral cancer, where as post graduate students are unaware(fig5).88.23% of post graduates are aware that drug vinblastine is an alkaloid (fig6).
FIG:1 Most common site of oral cancer  FIG:2 Most common type of oral cancer

FIG:3 Treatment of oral cancer  FIG:4 Adverse effect of radiotherapy in oral cancer

FIG:5 Secondary metastatic site of oral cancer  FIG:6 Type of drug Vinblastine
The total oral cancer knowledge score (based on summing all the positive responses for all the relevant questions and calculating the percentage) was found to be 88% for postgraduates, 86% for internship group, 79% for final years and 56% for the third years participants group (least) respectively (Table 1).

DISCUSSION:

Though there are advancements in the treatment of cancer there is still increase in the incidence of oral cancer. With gradual increase in the incidence of oral cancer there is increase in the need for undergraduate dental students to have a better training in proper diagnosis of oral cancer through early signs and symptoms and must be aware about the early managements of precancerous lesions. Though post-graduates are likely to be trained to be effective in this field, undergraduate students should have a technical, scientific, humanistic and ethical knowledge aimed at prevention of prevalent oral diseases. They should at least have a basic knowledge on the prevention and early diagnosis of oral cancer.

In our study majority of the participants knew that passive smoking can cause oral cancer which is in accordance with the study of Dale P Sandler et al (1985). 77.6% of the participants are aware that human papilloma virus is a risk factor for oral cancer which is in accordance with the study of Malik Sallam et al (2019). Human papilloma virus infection carries a high carcinogenic potential hence it is a high risk genotype which has an increasing epidemiological significance. It is anticipated that human papilloma virus will become the most common risk factor for oral cancer in the next decade; hence a thorough knowledge about the nature and diagnosis of HPV is necessary.
In our study majority of the participants are aware that lung is the most common secondary metastatic site of oral cancer which is in accordance with the study done by Remco de Bree et al (2009)\textsuperscript{12} which thus denotes their awareness about the metastatic nature of oral cancer.

Majority of the participants are aware that lymph node metastasis is the critical prognostic indicator which is in accordance with the study done by Soares et al (2014)\textsuperscript{8} which denotes their clear knowledge about the factors determining the prognosis.

In the present study, 74.1\% of the participants reported correctly that squamous cell carcinoma as the most common oral cancer which is higher than 48.1\% as reported by Soares et al (2014)\textsuperscript{8} in his study, and which is lower than 97.1\% as reported by ShaileeFotedar et al (2015)\textsuperscript{13} in his study. Squamous cell carcinoma accounts for around 95\% of oral cancers, known for its high risk factors and its clinical features are identifiable and its early lesions have effective treatment\textsuperscript{14}.

In the current study, the most commonly affected sites of cancer was reported to be tongue (45.2\%) followed by labial/buccal mucosa, followed by palate (10.1\%), gingiva (9.5\%) which is in contrast with the results reported by Luis Silva Monteiro et al (2012)\textsuperscript{15}, where tongue (33.9\%) followed by gums (22.1\%), palate (10.1\%), floor of the tongue and cheek mucosa. Students mostly focus on the tooth and tooth bearing areas while missing out places like floor of the tongue and buccal mucosa\textsuperscript{16}. Dentists must be well aware about the most common sites of oral cancer so that the possibility of missing out the lesions would be less.

To the question regarding the genetical inheritance of oral cancer, 54.2\% of participants are aware about the genetic inheritance which is in accordance with the study done by Giuseppe Colella et al (2008)\textsuperscript{2}, which indicates that there is an uncertainty regarding the ability of cancer to run in families.

To the question regarding the TNM staging, majority of the participants are aware that only in stage 3, the lymph nodes will be affected which shows their awareness of TNM staging in oral cancer which is in accordance with the study of U.Parvathaneni et al (2016)\textsuperscript{17}.

In our study majority of the participants are aware that trismus, radiation caries and osteoradionecrosis are the adverse effects of radiotherapy which is in positive correlation with the study done by Apeksha Mainali et al (2011)\textsuperscript{18}.In this study, there is a significant association between the year of study of dental students and their knowledge of oral cancer. This is in accordance with the results reported by Sami AbdoRadman Al Dubai et al (2012)\textsuperscript{19} in his study.

There is a satisfactory amount of awareness and knowledge about oral cancer among dental students. They are well-educated regarding the types and risk factors of oral cancer but care should be taken towards education on prevention, early referral and diagnostic methods of oral cancer.

**CONCLUSION:**

Even in the asymptomatic patients even before the dissemination of the tumor to the adjacent tissues, the dentists have high chances of diagnosis of the oral cancer as they routinely examine the oral cavity. Hence dentist's knowledge in this field is crucial. Thus our study tries to
demonstrate the knowledge about oral cancer among dental students and also points on the lack of subjects in certain aspects. These deficits in few areas can be rectified by encouraging students to attend regular CDE programs, conferences, webinars and seminars related to oral cancer and their recent updates.

REFERENCE:


