ASSESSMENT OF VARIOUS RISK HABITS AMONG ORAL CANCER PATIENTS

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Abstract: Oral cancer is a major public health problem in the Indian subcontinent, where it ranks among the top three types of cancer in the country. Oral cancer is defined as the cancer of lips, mouth and tongue.The difference in incidence and pattern of oral cancer can be due to an overall effect of ageing of population as well as some regional differences in the prevalence of specific risk factor.Therefore the aim of the present study was to assess oral cancer incidence in patients based on forms of habits. This study was conducted in the Oral Cancer Department , Saveetha Dental College, Chennai. The study involved 50 patients who were clinically diagnosed with oral cancer. The various forms of habits observed were Guthka,Pan chewing ,Smoking. Pearson chi square test was done to statistically analyze the data and to identify any significant level of association. The most predominant form of habit was observed to be Pan chewing(n=11;22%) Out of the total 50 patients involved in the study it was observed that it was most predominant in the males(78%) with Pan chewing being the most predominant habit(n=10;25.6%) More number of oral cancer with various forms of habits were observed in above 50 years of age group(n=29;58%) Within the limitations of our study it was observed that oral cancer incidence in patients based on forms of habits was observed in above 50 years of age with a high predominance in the males and Pan chewing being the most common form of habit. Further studies with a larger sample size are required to compare the efficacy of oral cancer based on various forms of habits.

Keywords: Cancer,Forms of habits ,Prevalence, predominance, innovative study.

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INTRODUCTION

Carcinoma is defined as the uncontrollable growth of cells that invade and cause damage to the surrounding tissues. Globally, oral carcinoma is the sixth most common cancer. Among the modern epidemics, oral cancer is the commonest cause of morbidity and mortality in developing countries [1-2].Tobacco use and excessive alcohol consumption have been estimated to account for about 90% of cancer in the oral cavity, the oral malignancy risk increases when tobacco is used in combination with alcohol or areca nut [3].The risk for developing oral malignancy is three times higher in smokers compared with non-smokers[4]. Major risk factors for oral cancer are the use of tobacco, betel quid, and alcohol[5,6].Although existing tobacco and alcohol control policies,mouth cancer incidence has been increasing in most population-based cancer registries (PBCRs) in India. In a country such as India, where access to health-care services and cancer-related awareness is highly variable, changes in incidence rates should be interpreted carefully[7-8].

Oral cancers not only affect the cosmesis of the patients, but also the patient's lifestyle, life expectancy, patient's ability to communicate, major functions such as swallowing and chewing. In developing countries, the survival rate in patients with oral carcinoma is poor because of advanced clinical stages and advanced age at which the disease is diagnosed due to low socioeconomic status and awareness among the people[9]. Oral squamous cell carcinoma shows geographical variation with respect to the age, sex, site, and habits of the population[10].In South East Asia, the high incidence was due to risk habits of smoking, betel quid, and tobacco chewing habits. The mixed habits act as a synergistic effect, with higher risk than independent risk habits. India had the highest incident rate of oral cancer; it was aptly labeled oral cancer capital of the world with an estimated 1% of the population having oral premalignant lesions[11-12].

The most common habits related to oral cancer in India are use of tobacco smoking and tobacco chewing. Use of alcohol can be considered as an additive factor. As per the report obtained from the Global Adult Tobacco Survey, from Indian states and union territories conducted during 2009–2010, approximately 274.9 million people use tobacco in India. As per data, more than one-third (35%) of adult use tobacco in some form or the other(Smoked or smokeless), 163.7 million are users of only smokeless tobacco, 68.9 million are only smokers, and 42.3 million are users of both smoking and smokeless tobacco[13,14]Early detection of these oral cancers will enable appropriate clinical management and monitoring. Moreover, improving the incidence, mortality, and survival rates of oral cancer requires a multi-tier structural approach that targets society, dentists, communities, and the individual.[15–29]

Even though clinical diagnosis occurs via examination of the oral cavity and tongue which is accessible by current

diagnostic tools, the majority of cases present to a healthcare facility at later stages of cancer subtypes, thereby reducing chances of survival due to delays in diagnosis [30]
Oral cancer will remain a major health problem and efforts towards early detection, and prevention will reduce this burden.This information gives us a knowledge of the burden of cancer, etiology studies and the effectiveness of the activities that have been undertaken to control cancer.Previously our team has a rich experience in working on various research projects across multiple disciplines [31–40]
Now the growing trend in this area motivated us to pursue this project.The aim of this study is to assess the incidence of oral cancer based on various forms of habits.

MATERIALS AND METHODS

Study design and setting: This is a retrospective study conducted in a university setting (Saveetha dental college and hospitals, Chennai).Thus the data available is of patients from the same geographic location and have similar ethnicity. Approval was obtained from the institutional Ethical committee(IEC).The ethical approval number for the present study is SDC/SIHEC/2020/DIASDATA/0619-0320.

Sampling: In this retrospective study, about 86,000 records of patients who reported to Saveetha Dental College from June 2019 to March 2020 were reviewed. The study population included 50 patients who had oral cancer with various forms of habits.Two examiners were involved in the study. Cross verification of data were done with the help of photographs. The internal validity of the study was carried out by analysing the age and gender of patients.The external validity was carried out by analysing the forms of habits.

Data collection and tabulation: Clinical examination, dental status and photographs of oral cancer patients with various forms of habits were assessed. Data related to age, gender, various forms of habits in oral cancer patients was collected. The study involved age groups divided into less than 50 years and greater than the 50 years. Incomplete or censored data was excluded from the study. Cross verification of data were done with the help of photographs.Two examiners were involved in the study. Data was entered in a methodical manner. Data was recorded and tabulated on Excel.

Statistical Analysis: After tabulation using MS Excel, the data was exported to IBM SPSS software [Version 19: IBMCorporation NY USA] for statistical analysis. Independent variables included age, gender. Dependent variables included various forms of habits. The statistical analysis was done by pearson chi square test.Association of age, gender, various forms of habits in oral cancer patients were performed. Pearson chi square test was done to statistically analyze the data and was used to identify any significant level of association which was set at 0.05.

RESULTS AND DISCUSSION

Out of the total 50 patients involved in the study it was observed that the highest number of oral cancer patients had Pan chewing as the most common form of habit.(n=11;22%) followed by Pan chewing and Gutkha(n= 4;8%), Guthka(n=3;6%) Smoking (n=2;4%), and for about 30 patient the cause was unknown (n=30;60%) [Figure 1]. It was also observed that it was predominant in above 50 years of age group (n=29;58%) compared to females(n=21;42%) Pearson's Chi square value =5.136; df =4 ;p-value: 0.274 (p>0.05); hence statistically not significant. [Figure 2] Oral cancer Patients with various forms of habits were more predominant in males(n=39;78%) when compared to females(n=11;22%)Pearson's Chi square value = 5.852;df =4 ;p-value: 0.210 (p>0.05); hence statistically not significant.Chi square test was done and association between age group,gender and various forms of habits was found to be statistically not significant(P>0.05).[Figure 3]
Thus, from this study it was observed that oral cancer incidence in patients based on forms of habits was predominant in above 50 years of age group with a high predominance in the males and Pan chewing being the most common form of habit. Further studies with a larger sample size are required to compare the efficacy of oral cancer based on various forms of habits .
Oral cancer is also the most common type of head and neck cancer in Taiwan, with the incidence rate among men being 10.9 times higher than that among women By comparing the incidence rates of various cancers in Taiwan,it can be observed that oral cancer ranks fifth among the top 10 causes of deaths due to cancer and hasbeen the fourth most common cancer among men for 12 consecutive years since 2003 Therefore,the prevention and control of oral cancer are regarded as key health issues in Taiwan[41]
Sex, age, educational level, marital status, presence or absence of diabetes, presence or absence of other cancers, comorbidity severity, smoking and betel nut chewing habits, and monthly salary influenced oral cancer incidence among individuals who had undergone oral cancer screening. Among the individuals screened, men had a higher risk of oral cancer incidence (hazard ratio (HR) =5.72)[42]. Subapriya *et al.* revealed in their study that combination of smoking, chewing, and alcohol had a 11.34-fold higher risk than independent risk of disease.Similar to earlier reports, the present retrospective study showed a total of 98.5% prevalence of buccal mucosa carcinoma with regard to risk habits of tobacco smoking, chewing, pan/areca nut chewing, and alcoholism. However, 39.4% had multihabits, which proved to be more aggressive than single habits. Further, compared with all habits, alcohol prevalence reported with lowest of 1% buccal mucosa carcinoma patients. This baseline characteristic on buccal cancer provides etiological clues for future hospital-/population-based epidemiological studies[43].
Tobacco use and alcohol are known risk factors for cancers of the oral cavity. Estimates indicate 57% of all men and 11% of women between 15–49 years of age use some form of tobacco. Besides smoking, use of smokeless tobacco is also widely prevalent as noted in the use of Betel quid. This is very common and is accepted socially and culturally in many parts of India. Additionally, gutka, zarda, kharra, mawa, and khainni are all dry mixtures of lime, areca nut flakes, and powdered tobacco custom mixed by vendors [44,45].
Among individuals with habit, 135 (42.18%) were tobacco chewers and smoking was prevalent in about 48 (15%). The prevalence was more in males 37 (15.22%). Amongst both males (44.03%) and females (48.05%) gingivo-buccal sulcus was the most common site. The least common site was seen to be lip with only 10 (3.12%) patients. Well differentiated squamous cell carcinoma was common in both males and females with 155 (63.78%) and 47 (61.03%) respectively. Poorly differentiated squamous cell carcinoma was only reported in 4(1.64%) males[46].

Early detection of these oral cancers will enable appropriate clinical management and monitoring. Moreover, improving the incidence, mortality, and survival rates of oral cancer requires a multi-tier structural approach that targets society, dentists, communities, and the individual.Our institution is passionate about high quality evidence based research and has excelled in various fields [47–53]. We hope this study adds to this rich legacy.

CONCLUSION

Within the limitations of our study it was observed that oral cancer incidence in patients based on forms of habits was predominant in the above 50 years age group with a higher predilection for males and Pan chewing being the most common form of habit. Further studies with a larger sample size are required to compare the efficacy of oral cancer based on various forms of habits.

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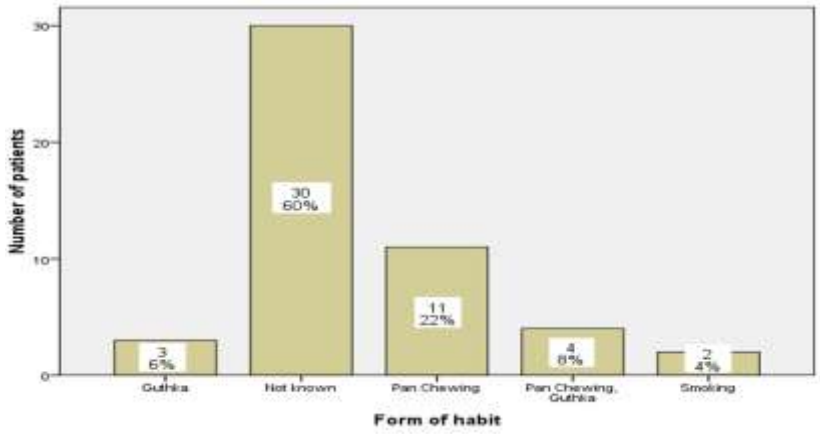

Figure 1. Bar graph depicts the frequency distribution of various forms of habit in patients with oral cancer. The X axis represents form of habit, Y axis represents the number of patients. The graph shows that the highest form of habit seen in oral cancer patients was Pan chewing.

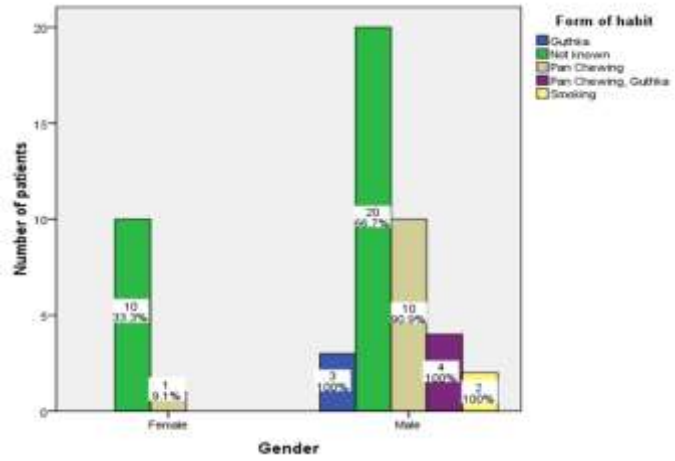

Figure 2. Bar graph depicts the association between gender and number of oral cancer patients with various forms of habits. X axis represents gender, Y axis represents the number of oral cancer patients with various forms of habits.It was observed that majority of the patients form of habit was unknown.(Green)There was no association between gender and number of oral cancer patients with various forms of habits.Pearson's Chi square value =5.136; df =4 ;p-value: 0.274 (p>0.05); hence statistically not significant.

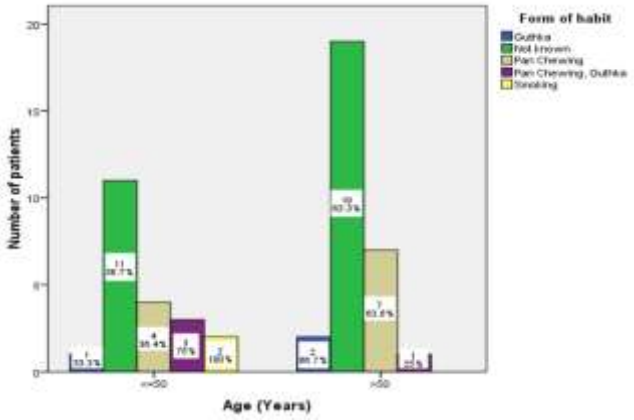

Figure 3: Bar graph depicts the association between age and number of oral cancer patients with various forms of habits. X axis represents age, Y axis represents the number of oral cancer patients with various forms of habits.It was observed that majority of the patients form of habit was unknown.(Green)There was no association between age and number of oral cancer patients with various forms of habits.Pearson's Chi square value = 5.852;df =4 ;p-value: 0.210 (p>0.05); hence statistically not significant.