Knowledge And Awareness About Oral Cancer - A Survey Among Chennai Population

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ABSTRACT:

Aim: To assess the awareness about Oral Cancer among the Chennai population. **Background**: The most common cause of death in developed and developing countries is Oral cancer, with increasing habits of smoking, tobacco chewing and alcohol consumption. Early diagnosis leads to better cure rates and improves the quality of life. Oral cancer screening is very crucial nowadays. **Materials and Methods**: A cross-sectional survey was done among 137 participants from Chennai. A self administered questionnaire was given. Data was collected and tabulated in Excel sheet and statistical analysis was done using SPSS version 23. **Results**: In the present study the age group of 18-25 were found to be aware about Oral cancer. The association between age and knowing about Oral cancer screening was done and results were statistically significant (p value = 0.007). P values less than 0.05 were taken as statistically significant. **Conclusion**: Innovative programs and public awareness campaigns should be done to raise awareness about oral cancer. A media campaign informing the public is also required.

Keywords: Innovative, lifestyle, oral cancer, screening, smoking, tobacco

Introduction

  Oral Cancer occurs in more than 10 million new cases and 6 million deaths every year worldwide, affecting the morbidity and mortality rates (1–3). Oral cancer ranks sixth with more than three lakh new cases diagnosed each year (4). An estimate according to the National Cancer Control Program shows that

the total cancer burden in India for all sites will increase from 7,00,000 new cases per year to 14,00,00 cases by 2026 (5). The literature about oral cancer and its risk among the Indian population is limited.

Almost 90% of oral cancers are squamous cell carcinoma. Smoking, alcohol use, and smokeless tobacco products are major risk factors of oral cancer (1,2). Early diagnosis greatly increases a patient's chance of survival as the mouth is very accessible for a clinic or self-examination. Sometimes oral cancer is also diagnosed in later advanced stages. Most oral cancers are preventable if people know how it comes and what are the risk factors. Discovery of oral cancer often occurs when the cancer is metastasized (6,7). Dentists are also important in primary and secondary prevention of oral cancer. It is vital that dentists have accurate knowledge about oral cancer as they are opportunistically qualified to screen for oral cancer. Dental professionals play an integral role in the detection, diagnosis and referral of oral cancer patients. At every dental visit, a complete head and neck examination should be manually done by the dentist (4,8-9).

The majority of oral cancers arise from long-standing premalignant lesions. Dieting deficient in fruits and vegetables also leads to development of oral cancer. Other risk factors include oncogenic virus, candida, iron deficiency, radiation, immunosuppression carcinogens. It generally arises from painless ulcers in the normal mucosa. Human papillomavirus is also associated with oropharyngeal cancers (10,11). Worldwide and in Indian scenarios, most oral cancers are diagnosed in advanced stages, requiring aggressive treatment and associated morbidity results, resulting in a higher mortality rate than when diagnosed early (12). Oral cancer screening plays an important role in early detection and preventing oral cancer. Oral visual screening can reduce mortality in high numbers and also has the power of reducing the mortality number by 37,000 (13). Our team has extensive knowledge and research experience that has translated into high quality publications (14-33). The aim was to assess oral cancer awareness among the Chennai population.

Materials and Methods

A cross sectional study was conducted through an online survey from February to April 2021 among 137 participants from the general population. A simple random sampling was used to select the study participants. Returning the filled questionnaire was considered as implicit consent as a part of the survey. Self administered questionnaire of close-ended questions was prepared and it was distributed through the online survey "google forms". The collected data were checked regularly for clarity, competence, consistency, accuracy and validity. Demographic details were also included in the questionnaire. Data was analysed with SPSS (Statistical Package for Social Science) Version 23.0 Descriptive statistics as percent were calculated to summarise qualitative data. Chi square test was used to analyze different parameters.

Table 1- Shows the demographic details asked in the questionnaire.

Age	18-25, 25-40, 40-55, 55-70 and Above 70
Gender	Male, Female and Prefer not to say

Table 2- Questionnaire

Questions	Response	
Have you heard about Oral Cancer screening?	Yes	No
Have you had your mouth examined as a part of Oral Cancer?	Yes	No
Do you know how Oral Cancer comes about?	Yes	No
Is oral cancer a contagious disease?	Yes	No
Is oral cancer a curable disease?	Yes	No
Do you know that alcohol, eating tobacco and smoking may cause Oral Cancer?	Yes	No
Do you think that change in lifestyle, balanced diet and multivitamins could reduce the risk of Oral Cancer?	Yes	No
Do you think that detection of Oral Cancer in early stages could increase the success of the treatment?	Yes	No
Do the risk factors of Oral Cancer increase with age?	Yes	No
Do you know the significance of positive family history of Oral Cancer in its diagnosis?	Yes	No
Do you know the treatment options for Oral Cancer?	Yes	No

Results

In this study, 44.53% participants were from 18-25 age group, 32.12% participants were from the 25-40 age group, 10.22% participants were from 40-55 age group, 10.22% participants were from 55-70 age group and 2.92% participants were from above 70 age group (Figure 1). In this present study, 63.50% participants were male and 36.50% were female (Figure 2). In our study 50.36% participants knew about Oral cancer screening (Figure 3) while 72.99% participants were not aware about the reasons for oral cancer (Figure 5). In this survey 80.29% participants disagreed that oral cancer is a contagious disease (Figure 6) and 62.04% participants agreed that oral cancer is a curable disease (Figure 7). In this present study 75.91% participants were aware about the habits (alcohol,eating tobacco and smoking) causing Oral cancer (Figure 8) while 71.53% participants were aware that change in lifestyle, multivitamins and balanced diet can reduce the risk of Oral cancer (Figure 9). 41.61% participants were aware about the treatment options of Oral cancer (Figure 11). The association between age and responses collected regarding the question about change in lifestyle,balanced diet and multivitamins reducing the risk of oral

cancer yields a p value of 0.000 and hence it is statistically significant (Figure 12). The association between age and the responses collected regarding the question about their knowledge of oral cancer screening yields a p value of 0.007 and hence it is statistically significant (Figure 13). The association between age and responses collected regarding the question that alcohol, eating tobacco and smoking causes oral cancer yields a p value of 0.019 and hence it is statistically significant (Figure 14).
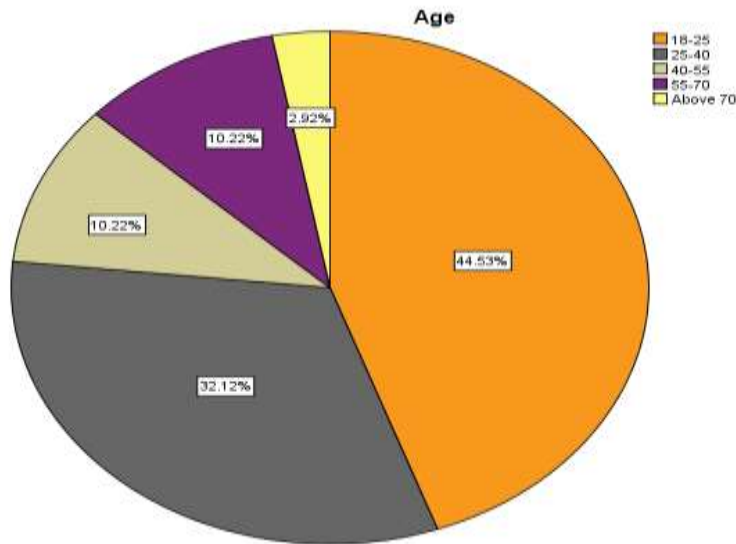
Figure 1: Shows the response of participants according to their age. Blue indicates 18-25, green indicates 25-40, beige indicates 40-55, purple indicates 55-70 and yellow indicates above 70. 44.53% participants were from the 18-25 age group, 32.12% participants are from the 25-40 age group, 10.22% participants are from the 40-55 age group, 10.22% participants are from the 55-70 age group and 2.92% participants are from above 70 age group.
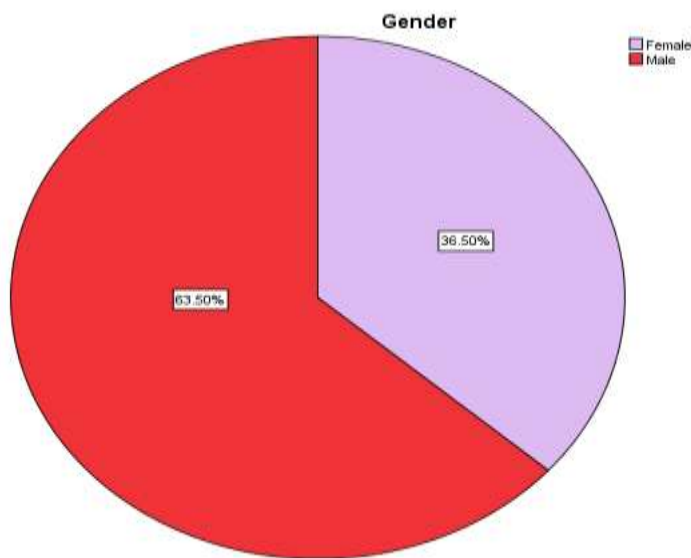
Figure 2: Shows the percentage distribution of gender. Green indicates male and blue indicates female. 63.50% participants are male and 36.50% are female.
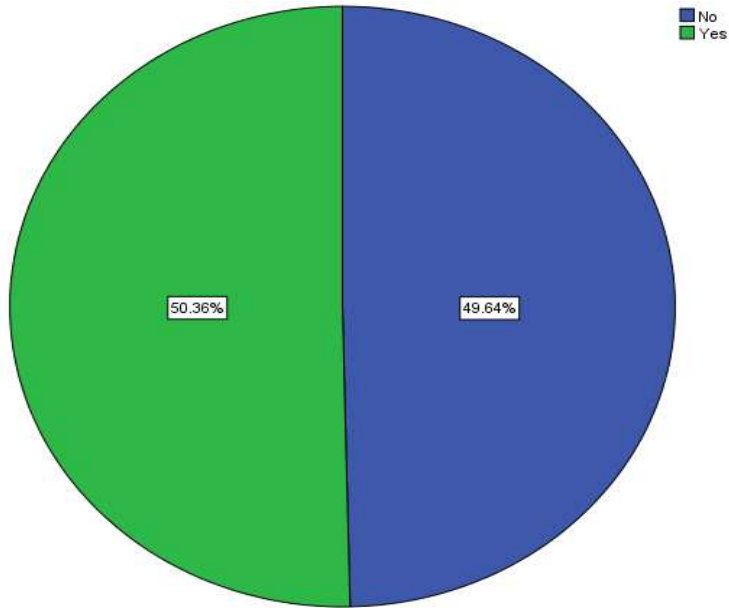
Figure 3: Shows the percentage distribution of responses about awareness about oral cancer screening. Green indicates "Yes" and blue indicates "No". Majority (50.36%) of the participants knew about Oral cancer screening while 49.64% participants did not know about oral cancer screening.
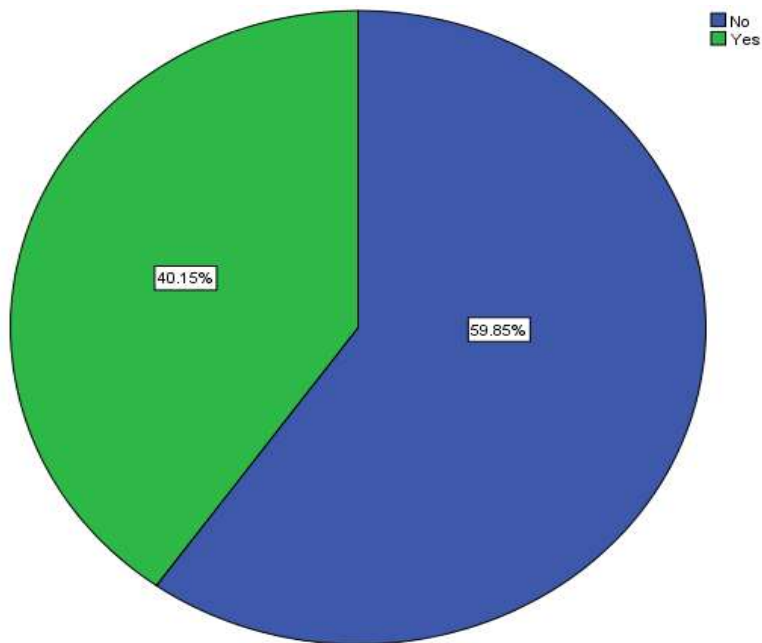

Figure 4:Shows the percentage distribution of responses given by the participants about their mouth being examined as a part of oral cancer screening. Green indicates "Yes" and blue indicates "No". Majority (59.85%) of the participants did not examine their mouth for oral screening while 40.15% participants have undergone mouth examination for oral cancer screening.
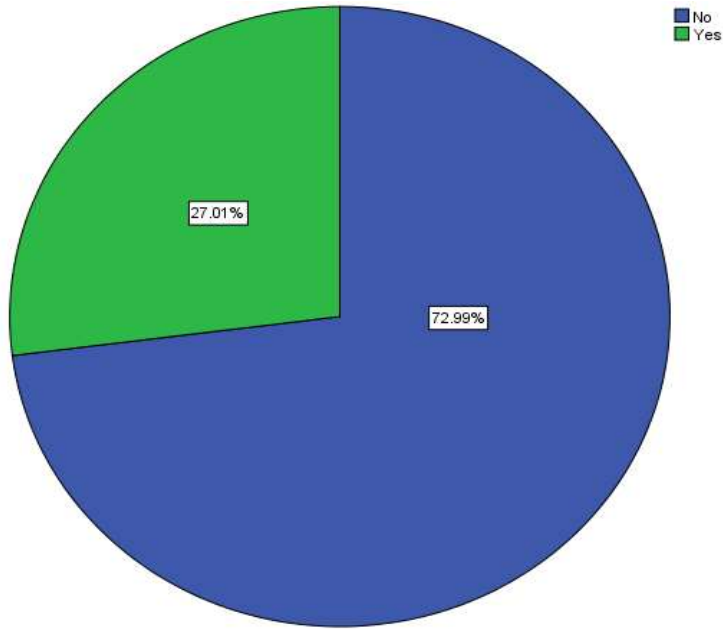
Figure 5: Shows the percentage distribution of responses given by the participants about occurrence of oral cancer. Green indicates "Yes'' and blue indicates "No". Majority (72.99%) of the participants did not know what causes oral cancer while 27.01% participants know the causes of oral cancer.
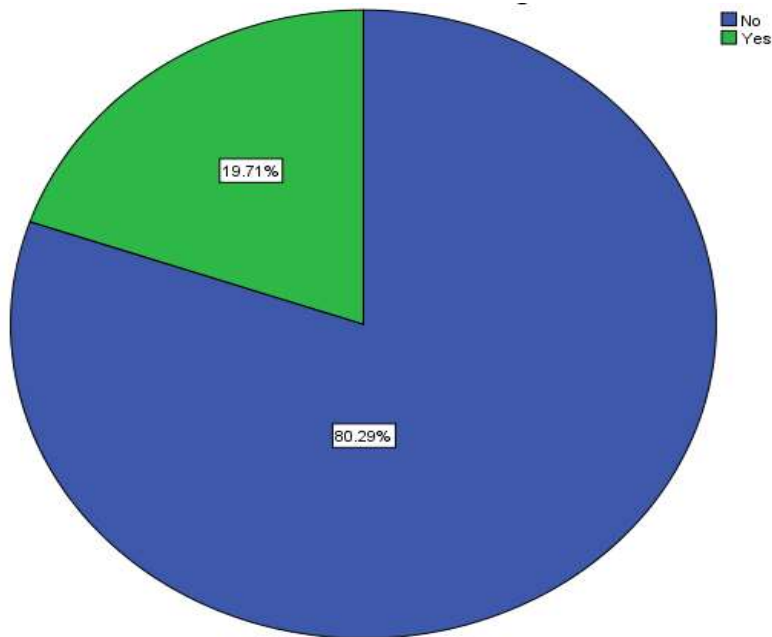

Figure 6: Shows the percentage distribution of responses given by the participants about their awareness about Oral cancer being a contagious disease. Green indicates "Yes" and blue indicates "No". Majority (80.29%) of the participants denied oral cancer being a contagious disease while 19.71% participants think that oral cancer is contagious.
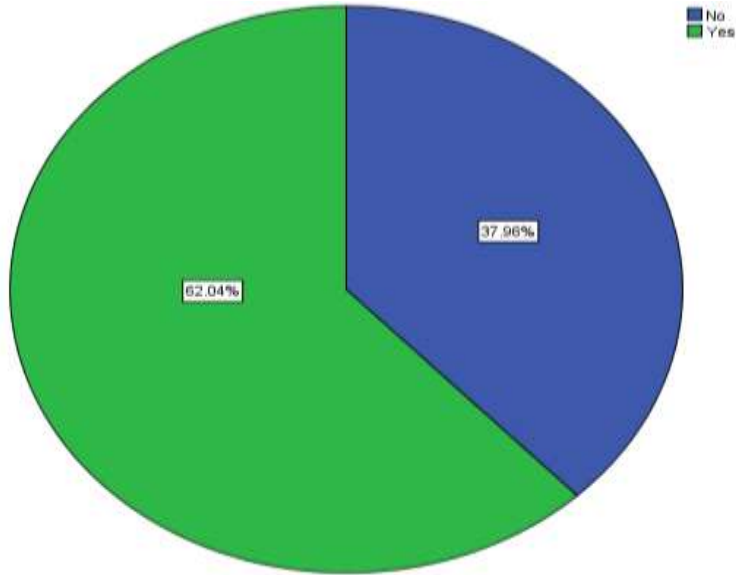
Figure 7:Shows the percentage distribution of responses given by the participants about their awareness of Oral cancer being a curable disease. Green indicates "Yes'' and blue indicates "No". Majority (62.04%) of the participants agreed that oral cancer is a curable disease while 37.96% participants were not aware that oral cancer is a curable disease.
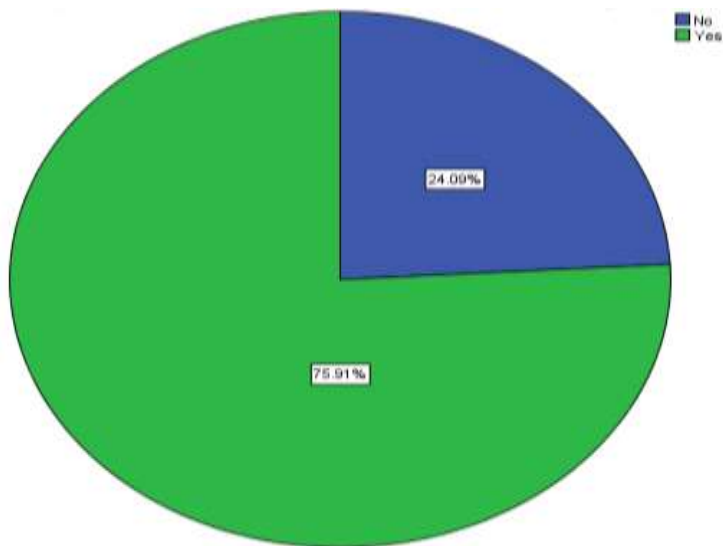

Figure 8: Shows the percentage distribution of responses for habits (alcohol,eating tobacco and smoking) causing Oral cancer. Green indicates "Yes'' and blue indicates "No". Majority (75.91%) of the participants were aware about the habits(alcohol,eating tobacco and smoking) causing Oral cancer while 24.09% participants were not aware about the habits (alcohol,eating tobacco and smoking) causing Oral cancer.
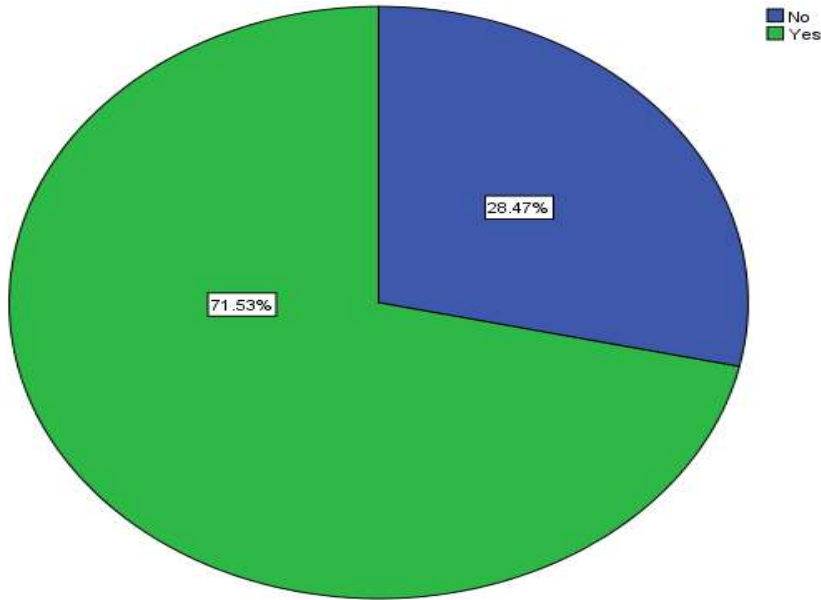
Figure 9: Shows the percentage distribution of responses that change in lifestyle, multivitamins and balanced diet can reduce the risk of Oral cancer. Green indicates "Yes" and blue indicates "No". Majority (71.53%) of the participants were aware that change in lifestyle, multivitamins and balanced diet can reduce the risk of Oral cancer while 28.47% participants were not aware that change in lifestyle, multivitamins and balanced diet can reduce the risk of Oral cancer.
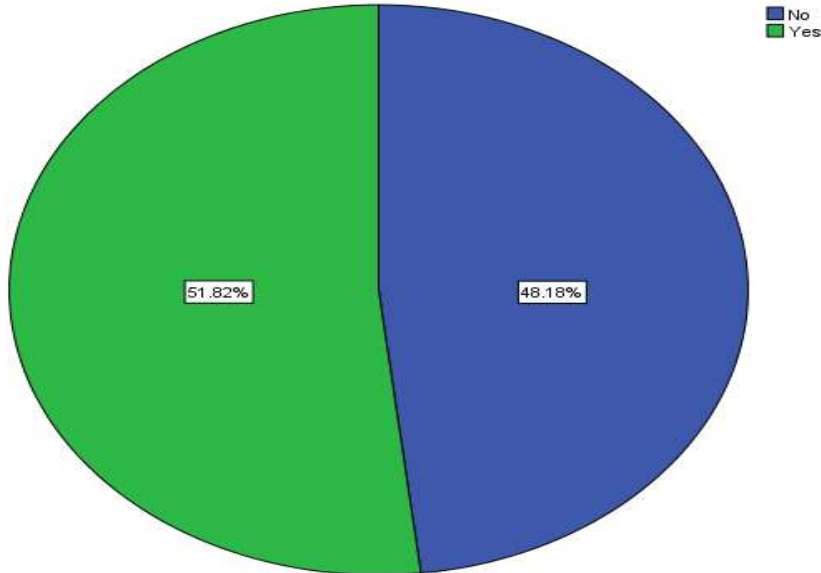

Figure 10: Shows the percentage distribution of responses given by the participants about their knowledge about the significance of positive family history of Oral cancer. Green indicates "Yes" and blue indicates "No". Majority (51.82%) of the participants were aware about the significance of positive family history in Oral cancer diagnosis while 37.96% participants were not aware about the significance of positive family history of Oral cancer in diagnosis.
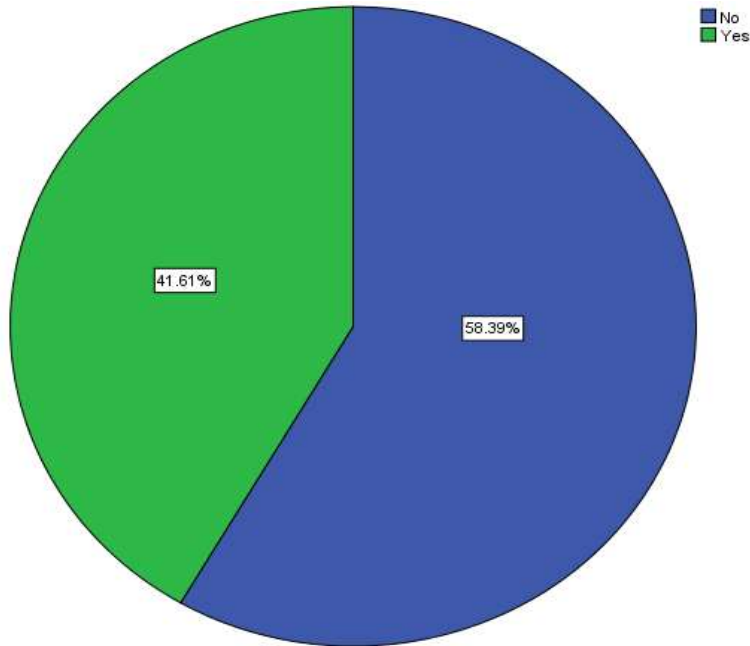
Figure 11:Shows the percentage distribution of responses given by the participants about their awareness for treatment options related to oral cancer. Green indicates "Yes" and blue indicates "No". Majority (58.39%) of the participants were not aware about the treatment options to treat Oral cancer while 41.61% participants were aware about the treatment options to treat Oral cancer.

Figure 12: The bar graph represents the association between age and percentage distribution for the responses collected regarding the question about change in lifestyle,balanced diet and multivitamins reducing the risk of oral cancer. The X-axis represents the age and the Y-axis represents the percentage distribution of responses. Green denotes "Yes" and blue denotes "No". 29.93% of participants from the

18-25 age group were aware that change in lifestyle, balanced diet and multivitamins reduces the risk of oral cancer. Result was statistically significant (Chi-square test; p value = 0.000- significant)
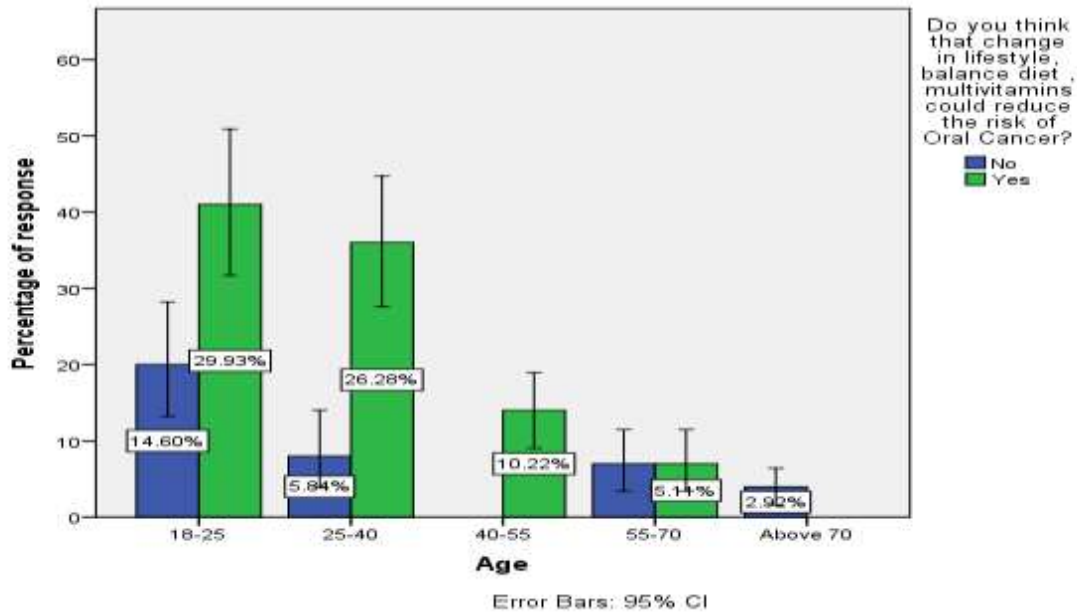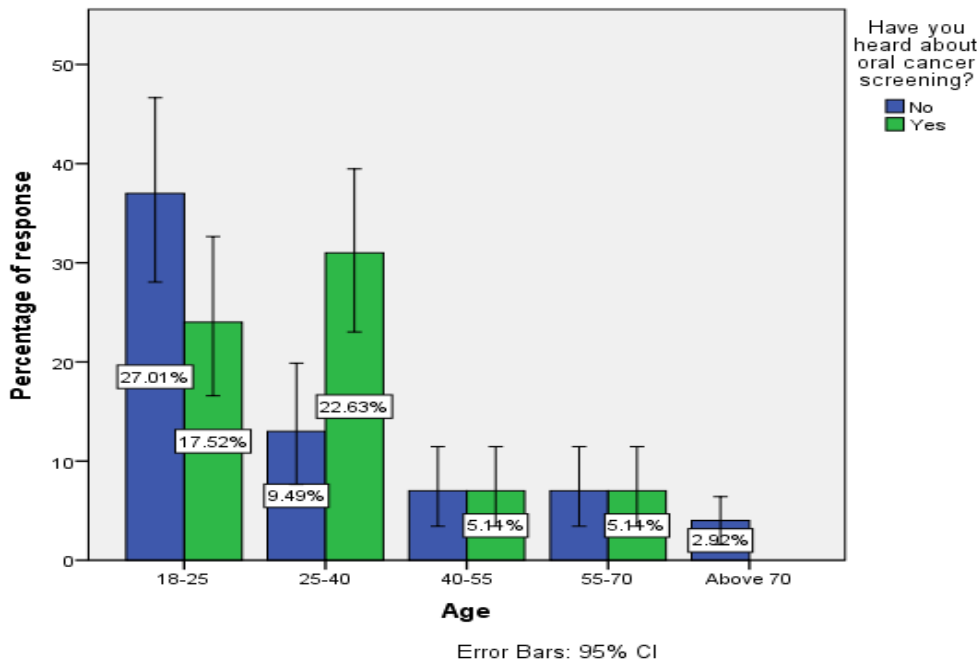

Error Bars: 95% CI

Figure 13:The bar graph represents the association between age and percentage distribution for the responses collected regarding the question about their knowledge of oral cancer screening. The X axis represents the age and the Y axis represents the percentage distribution of responses. Green denotes "Yes" and blue denotes "No". 27.01% of participants from the 18-25 age group were not aware about oral cancer screening. Result was statistically significant (Chi-square test; p value = 0.007- significant)
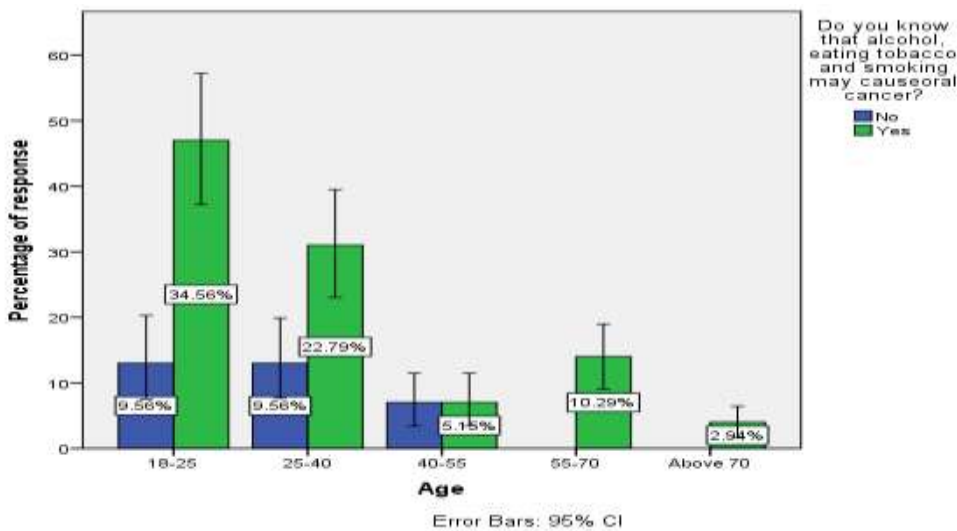

Error Bars: 95% CI

Figure 14:The bar graph represents the association between age and percentage distribution for the responses collected regarding the question that alcohol, eating tobacco and smoking causes oral cancer.

The X axis represents the age and Y axis represents the percentage distribution of responses. Green denotes "Yes" and blue denotes "No". 35.04% of participants from the 18-25 age group were aware that alcohol, smoking and eating tobacco causes oral cancer. Result was statistically significant (Chi-square test; p value = 0.019- significant)

Discussion

Oral cancer has one of the highest mortality ratios among all malignancies and is the most common cancer in India. Data level of oral cancer awareness in Chennai is scarce, making the planning of Public health policies to improve survival of patients with a disease really challenging (34). In the present study, the age group of 18-25 were found to be aware about Oral cancer. The age group from 18-25 were more aware about Oral cancer screening and that change in lifestyle, balanced diet and multivitamins reduces the risk of oral cancer when compared to other age groups.

In one previous study, it was found that 58 % of participants were not aware about Oral cancer being a curable disease which is consistent with our in which 38% of participants were not aware (35) . In one previous study only 23% of participants were concurrent tobacco and alcohol users and only 39% of these concurrently exposed participants reported awareness of the risk for Oral cancer contributed by alcohol whereas in our study 76% of participants were aware about habits causing oral cancer (36). In our study 50% of the individuals were unaware about Oral cancer screening which is consistent with one previous study where 98.5% of individuals had no knowledge about it (4). Results confirm adequate knowledge regarding certain questions while poor knowledge regarding few questions. The low level of awareness observed in the study could be admitted to lack of public health education programs focusing on oral cancer. In this present study, males were more than female participants which is not consistent with previous study (37). In this study 75.91% of people were aware that smoking, alcohol and tobacco leads to oral cancer which is consistent with the previous study (37). According to one previous study 75% of dentists considered Oral cancer diagnosed in an advanced stage. In a similar study, 90.7% of dentists believed that early detection of oral cancer improves survival whereas in this study 46% of students declared that early detection of oral cancer increases survival rates (38).

The enforcement of laws on youth access to tobacco and alcohol and the denial of all publicizing and promotional exercises by the tobacco industry. The prominent incorporation of solid pictorial notices in existing written notices on the names of tobacco and alcohol items (39). More multi center randomized controlled trials of dietary supplementation for people with precancerous injuries are required to survey the adequacy of vitamins, retinoids and carotenoids (40). Education campaigns are required to raise open awareness about oral cancer and its links with tobacco and alcohol consumption as most of the population in this study were unaware about the consequences (39). Associations between old-age, poor education, professional class and heavy alcohol consumption with Oral cancer have been found (4). One way to try to ensure early diagnosis may involve dental professionals to raise awareness about oral cancer among their patients. Not only dentists but other medical professionals and public first line healthcare institutes must be included in scanning programs (1). The limitation of this study would be that hospital populations attending outpatient clinics were only surveyed. The future scope is to do surveys including larger

populations for better findings. Planning more targeted workshops on oral cancer diagnosis and prevention is also helpful. Future studies may target assessment of knowledge and awareness of the community rather than the patient population subset since patients might be more informed on the topic than an average community member who may only infrequently visit a healthcare setting. An oral health promotion strategy involving elements of basic education on oral cancer and appropriate measures for early detection should be implemented.

Conclusion:

This survey highlights the general lack of awareness and knowledge on oral cancer among the population of Chennai. An oral health promotion strategy should involve elements of basic education on oral cancer as well as oral cancer screening should be implemented. The survey identified an existing gap in the knowledge and practices pertaining to oral cancer which can be fulfilled by conducting camps and educating them about the consequences.

CONFLICT OF INTEREST:
All the authors declare that there was no conflict of interest in the present study.

AUTHORS CONTRIBUTION:
Mithil Vora : Literature search, data collection, analysis and manuscript drafting
Dr. Suganya P and Dr. Priya Darshini : Data verification, manuscript drafting

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