KNOWLEDGE AND AWARENESS REGARDING RISK FACTORS FOR ORAL CANCER AMONG GAS AGENCY EMPLOYEES IN TIRUPUR

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ABSTRACT

Cancer is defined as the uncontrollable growth of cells that invade and cause damage to surrounding tissues. Oral cancer appears to be a growth or a pain in the mouth that doesn't go away. Oral cancer, including lip, tongue, cheek, mouth floor, hard and soft palate, sinuses, and pharynx (throat), can be life-threatening if not diagnosed and treated early. Cancer that occurs inside the mouth is sometimes referred to as oral cancer or oral cancer of the cavity. Mortal cancer is one of several types of cancer in a category called head and neck cancers. Mouth cancer and other cancers of the head and neck are often treated in the same way. This study was designed to create and assess awareness on oral cancer among employees of gas agencies in Tiruppur district. A self administered questionnaire prepared and circulated via google form link. The data was manipulated, analysed and tabulated. The obtained data was represented as cumulative percentage in pie charts. Association analysis between age groups of the participants and awareness on oral cancer was done by Pearson Chi square test (SPSS version 22) and the data was depicted in a Bar graph. The results of the study revealed that the participants were aware that smoking, chewing tobacco, and pan leads to increased chance of oral cancer. The present study concludes that the people of Tirupur were aware of the incidence of oral cancer and risk factors associated with it.

Keywords: awareness,oral cancer,prevention

INTRODUCTION

Oral cancer is a major public health issue worldwide.oral and pharyngeal cancers have been identified as the 6th most prevalent cancer in men and 9th in women.(Ariyawardana and Vithanaarachchi, 2005; Bagan *et al.*, 2019; Chung, York and Michaud, 2019). In the UK more than 6,300 people a year are diagnosed with cancer[Oral health foundation](Li *et al.*, 2020). Oral cancer reportedly affects nearly 30,000 Americans worldwide. Survival levels are below 50 per cent.(Monteiro *et al.*, 2012). The number of people diagnosed with the disease has grown by just over two thirds last decade(Macpherson, 2018). Oral cancer monitoring includes the quest for oral precancerous and cancerous lesions, usually before signs appear. A number of proven cancer screening services for a range of malignancies have been shown to dramatically minimize morbidity and mortality of patients-including the cervical cancer Pap test and breast cancer mammography(Chung, York and Michaud, 2019)(Ivan and Ana, 2018). The disease is usually

painless and asymptomatic in the first step. On the other side, dentists and doctors in their daily review will not give adequate attention to the oral mucosa and key symptoms of cancer(Bagan *et al.*, 2019; Chung, York and Michaud, 2019)(Hsieh *et al.*, 2020). Oral cancer is a critical public health problem affecting mankind today. In India the prevalence of oral cancer is very high due to economic, religious, regional factors and the prominence of addictive behaviour [Vishma B.K et al]. Oral cancer is linked with several risk factors and elevated death rates and although largely preventable ,adds significantly to the global cancer problem((Shimpi *et al.*, 2018). In India oral cancer has the highest prevalence among men and third highest prevalence among women. Nearly 8,0000 cases of cancer of both head and neck are diagnosed annually and 46000 deaths from oral cancer occur annually(Rai, 2017). For this reason this study was conducted to know the awareness, attitude and behaviour of the employee of the gas agencies about oral cancer in tirupur.This particular population was chosen as there were no preexisting article or work done on assessing their awareness level of oral cancer.The present research has origins from the team of investigators where previous work was done on in vitro studies like(Duraisamy *et al.*, 2019)(Ganapathy *et al.*, 2016)(Ajay *et al.*, 2017)(Ranganathan, Ganapathy and Jain, 2017)(Ashok and Suvitha, 2016) and also conducted several studies on systematic reviews like(Basha, Ganapathy and Venugopalan, 2018)(Subasree, Murthykumar and Dhanraj, 2016)(Ganapathy, Kannan and Venugopalan, 2017)(Jyothi *et al.*, 2017) on interventional studies like (Ariga *et al.*, 2018)(Ashok *et al.*, 2014)(Venugopalan *et al.*, 2014), numerous clinical trials like (Kannan and Venugopalan, 2018)(Vijayalakshmi and Ganapathy, 2016)(Selvan and Ganapathy, 2016). Now we are focussing on epidemiological surveys. The idea for this survey stemmed from the current interest in our community.
 The aim of the study is to analyse the awareness level of oral cancer among the population in tirupur.

MATERIALS AND METHODS

Study design :
The present study is a cross sectional survey conducted among gas agency employees, in Tirupur district.

Study subjects :
The sample size was 111 participants, who were selected by convenience sampling.

Eligibility criteria
Inclusion criteria: All the employees of the gas agencies in Tirupur district who were willing to participate were included.
Exclusion criteria: Those participants who did not respond even after three reminders were excluded.
Survey forms with incomplete entry were excluded from analysis.

Ethical considerations:
Returning the filled questionnaire was considered as implicit consent with no need for signing a written consent. Ethical approval for the study is obtained from the Institutional Review Board (IRB) .

Study method:
A Self administered questionnaire consisting of 9 closed and open ended questions were prepared and it was distributed among the Tiruppur population through online survey forms "GOOGLE FORMS". The collected data were checked regularly for clarity, competence, consistency, accuracy and validity. Demographic details were also included in the questionnaire.

Statistical analysis:
Data was analysed with SPSS version (22.0). Descriptive statistics as number and percent were calculated to summarise qualitative data. Chi square test was used to analyze and compare the level of awareness on Oral cancer and its risk among the Tirupur population. The confidence level was 95% and of statistical significance P < 0.05. Finally, the result was presented by using bar charts and frequency tables.

RESULT AND DISCUSSION

The questionnaire was attended by 111 participants and results of the data was presented as follows, Out of which 43.2% belong to the age group of 23-30 yrs, 36.9% belong to the age group of 30-40 yrs,19.8% belong to the age group of above 40yrs (FIG 1). About 62.2% male and 37.8% are female (FIG 2) and around 78.4% are aware that smoking, chewing tobacco, and pan leads to increased chance of oral cancer(FIG 3). About 55% of participants do not smoke tobacco(FIG 4), around 47.7% participants were smokers in the past(FIG 5). 49.5% participants smoked a total of 100 cigarettes or more in their lifetime(FIG 6). Around 62.2% are aware the death rate of oral cancer is more than any other cancer(FIG 7). About 66.7% are aware of warning signs of oral cancer like red or white patches(FIG 8) and 64% participants were provided counselling by dentists (FIG 9). This shows the frequency distribution of correlation of age group and awareness of the fact smoking, chewing tobacco, pan leads to increased chance of oral cancer p value-0.043(<0.05) statistically significant(Fig 10).This shows the frequency distribution of the association between age group and awareness of the fact that death rate of oral cancer is more than that of other cancer ,p value-0.005(<0.05) statistically significant(Fig 11). This shows the frequency distribution of association between age group and awareness of warning signs of oral cancer,p value-0.162(>0.05) statistically not significant(Fig 12).This shows the frequency distribution of association between age group and population who smoke tobacco,p value-0.000(<0.05) statistically significant(Fig 13). There was a similar study(Kuo *et al.*, 2016) where 82% were aware that smoking chewing tobacco leads to oral cancer. Similarly, a study conducted by Xeon Lee(Shieh and Lee, 2011) where 58% participants were smokers in the past and Farhona Abdul(Cardona *et al.*, 2017) study shows 58.5% participants smoked 100 or more cigarettes which are relevant to it. A study by Rajesh Khonna et al(Rajesh *et al.*, 2018) shows that 75.55 are aware that death rates are more due to oral cancer than other cancer. Daniel k et al conducted a study and reported that 82.6% were aware of warning signs of oral cancer which are relevant to this current survey.

CONCLUSION:

The present study concludes that there is a moderate awareness about tobacco chewing , smoking and its complications among the participants, there is a higher prevalence of tobacco use in the younger age group below 30 years in this study population. More awareness on oral cancer to be created among the population of Tirupur.

AUTHOR CONTRIBUTIONS

Author 1 (Roshan A), carried out the study by collecting data and drafted the manuscript after performing the necessary statistical analysis. Author 2 (Dr. L. Keerthi Sasanka) aided in conception of the topic, has participated in the study design, statistical analysis and has supervised in preparation of the manuscript. Author 3 (Dr.Kavitha S) has participated in the study design and has coordinated in developing the manuscript. All the authors have discussed the results among themselves and contributed to the final manuscript.

CONFLICTS OF INTEREST
None to declare

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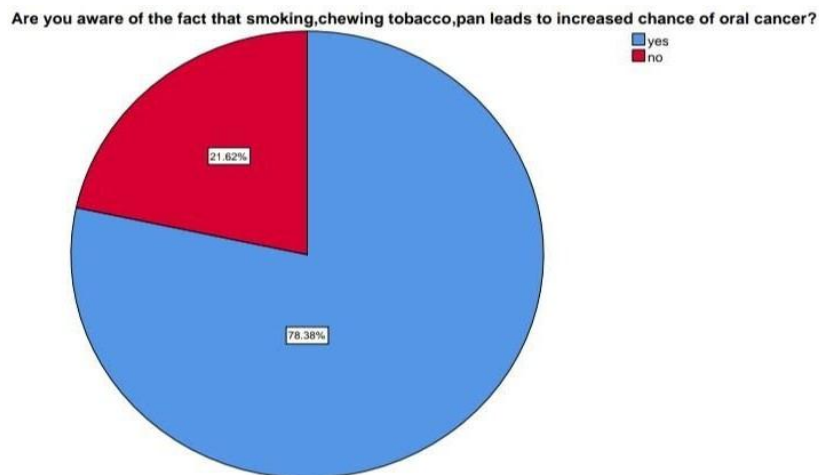
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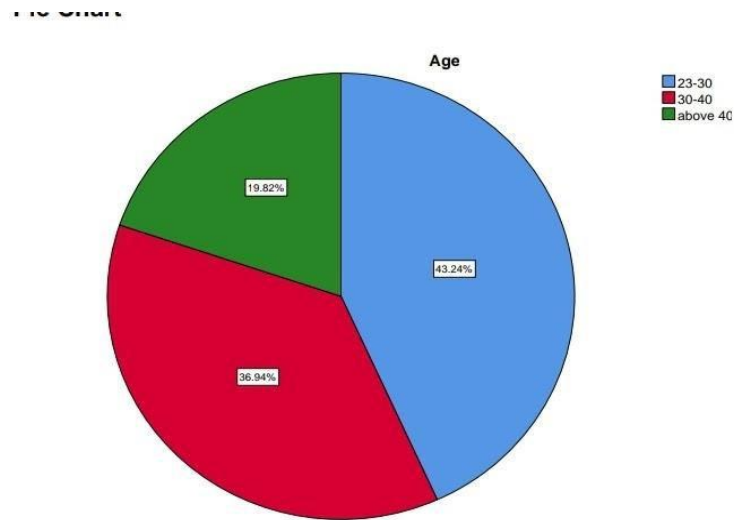
Figure 1: The pie chart depicts the age of participants, where the maximum number of participants were within the age 23-30 years 43.24% (blue), 36.94% of them were 30-40 years age (red), 19.82% of them were above 40 years (green) .
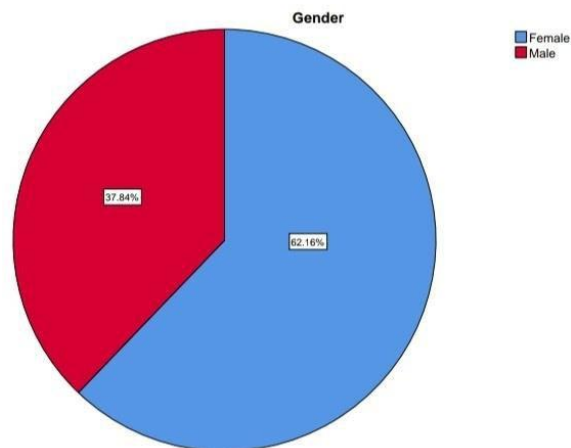
Figure 2 The pie chart depicts frequency distribution of gender, 62.16% (blue) of the participants were female and 37.84% (red) of the participants were males.

Are you aware of the fact that smoking,chewing tobacco,pan leads to increased chance of oral cancer?

yes
no

21.62%

78.38%

Figure 3 The pie chart depicts the frequency distribution of awareness of the fact that smoking and chewing tobacco leads to increased risk of oral cancer. 78.38% (blue) of the participants responded saying "yes" and 21.62% (red) of the participants responded saying "no"

Do you smoke tobacco?

yes
no
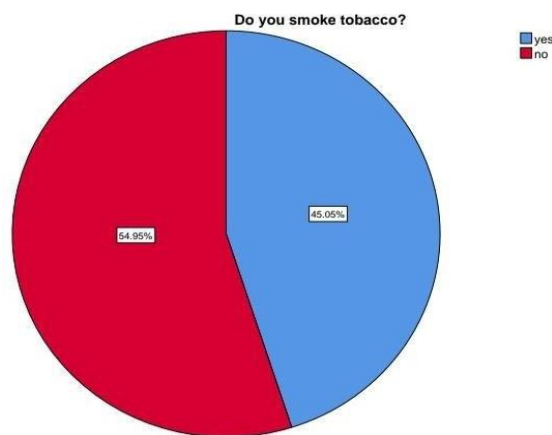
45.05%

54.95%

Figure 4: The pie chart depicted the frequency distribution of smoking habit among participants, 54.95% (red) of the participants had smoking habit and 45.05% (blue) of the participants did not have the habit of smoking

Figure 5 The pie chart depicted frequency distribution of former smokers. 52.25% (red) of the participants responded "no" and 47.75%(blue) of the participants responded that they were former **smoke**
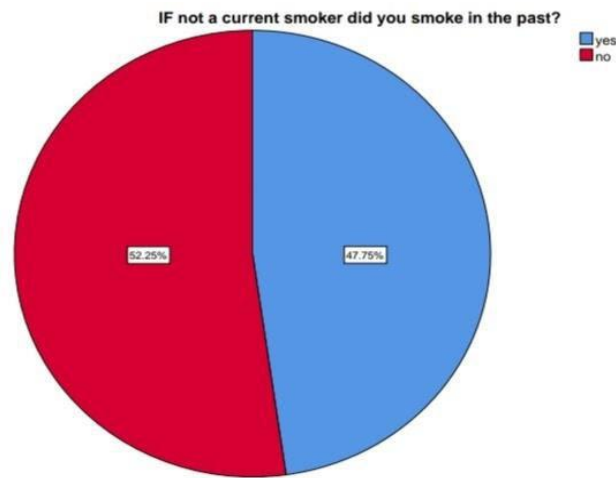

rs.

Figure 6: The pie chart depicted the frequency distribution of participants who smoked 100 or more cigarettes over lifetime. 50.45% (red) had not smoked 100 or more cigarettes in lifetime   and 49.55%(blue) had smoked 100 or more cigarettes in a lifetime
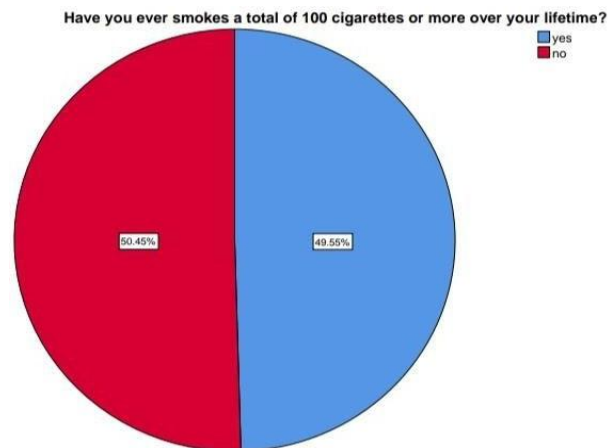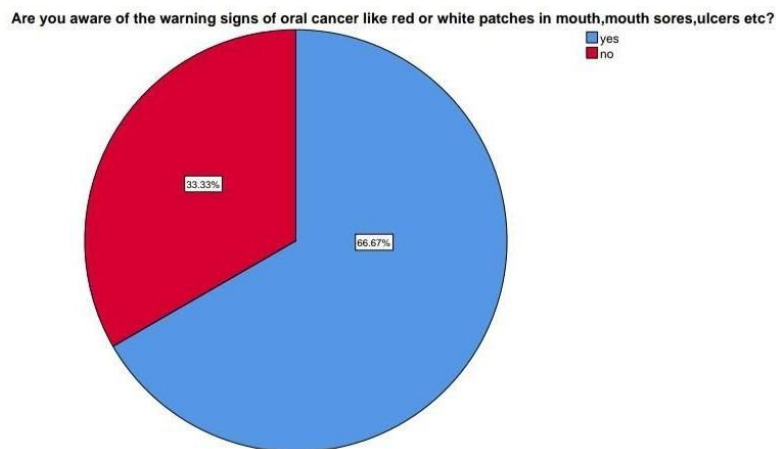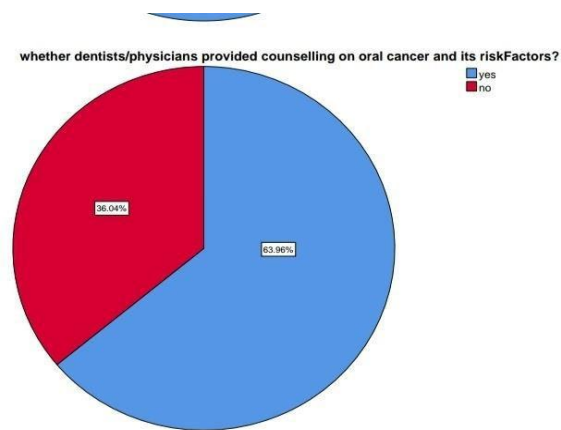
Figure 7 The pie chart depicted the frequency distribution of awareness of the fact that the fatality rate is much higher in oral cancer than other cancers. 16% (blue) are aware and 37.84**% (red) lack awareness**
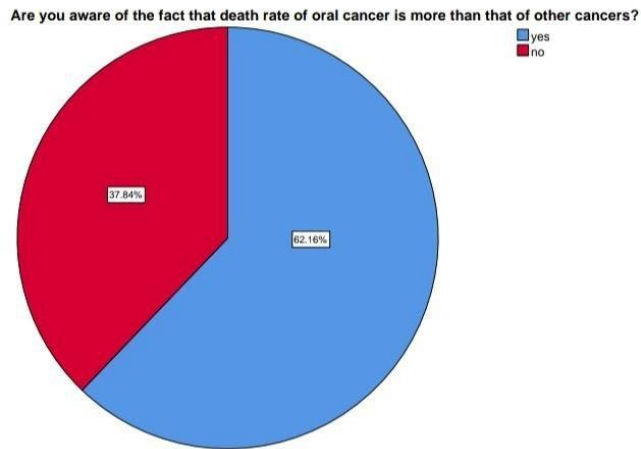
Figure 8: The pie chart depicts frequency distribution about awareness on symptoms of oral cancer. 66.67% (blue) are aware and 33.33%(red) lack awareness

Figure 9 The pie chart shows frequency distribution of participants who attended dental campaigns on oral cancer and its risk factors. 63.96%(blue) attended the campaigns and 36.04% (red) never attended the campaigns
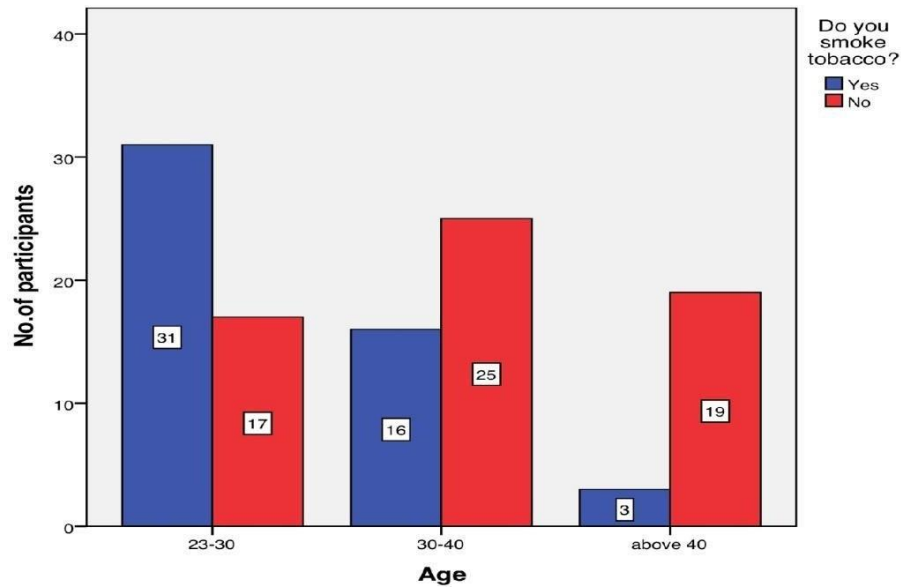
BAR GRAPHS

Figure 10: Bar graph representing the association analysis between age group and awareness of the fact smoking,chewing,tobacco,pan that leads to increased chance of oral cancer. X axis represents the age group and Y axis represents no of participants. Pearson chi square test-6.305,p value-0.043(<0.05) statistically significant, it proves among all these age groups 23-30 years age group were much aware of the fact that smoking, chewing, tobacco, pan leads to increased chance of oral cancer than other age groups
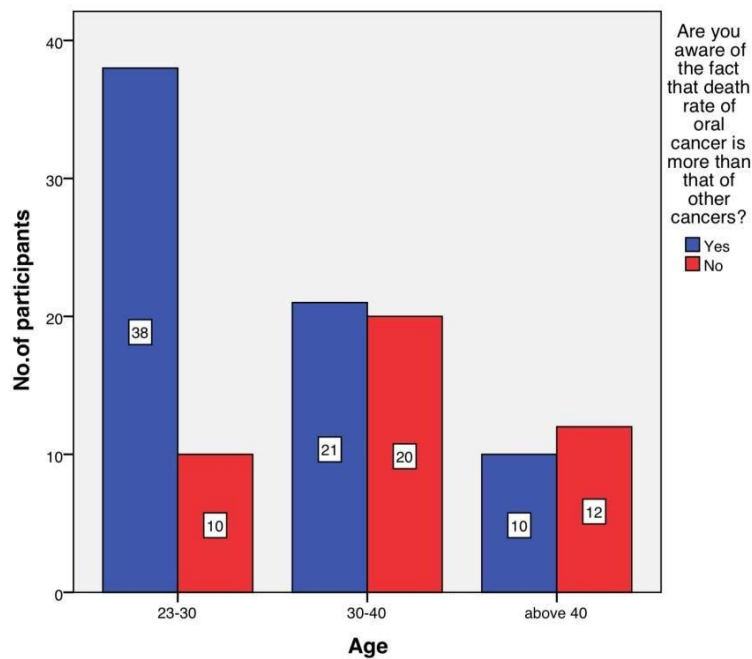
Figure 11: Bar graph represents the association between age group and awareness of the fact that death rate of oral cancer is more than that of other cancer. X axis represents the age group and Y axis represents the no of participants. Pearson chi square test-10.599,p value-0.005(<0.05) statistically significant. Among all these age groups 23-30 years age group were much aware of the fact that death rate of oral cancer was more than that of other cancer .
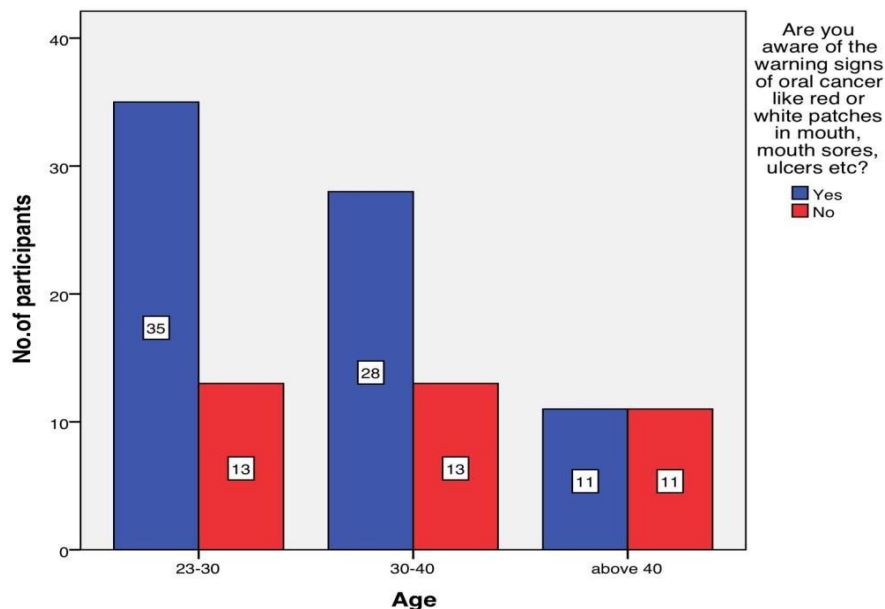
Figure 12: Bar graph representing the association between age group and awareness of warning sign of oral cancer.X axis represents the age group and Y axis represents .pearson chi square test-3.643,p value-0.162(>0.05) statistically not significant. All the age groups have similar levels of awareness of warning sign of oral cancer.

Figure 13: Bar graph representing the association between age group and population who smoke tobacco . X axis represents the age group and Y axis represents the no of participants..Pearson chi square test-16.770,p value-0.000(<0.05) statistically significant. This signifies that the majority of smokers were within the age group of 23-30 years rather than other age groups.