ABSTRACT
Tobacco smoking is recognized as a risk factor for many chronic diseases and previous literature evidence states that, most tobacco users avail smoking cessation services only after being diagnosed with a chronic systemic health condition, and in most cases this has increased the compliance and quit rate. But the prevalence of tobacco related disease, among tobacco users, as well as the role of youth in quitting tobacco is still unclear. The data for this retrospective analysis was collected from the patients attending the OP department of the private dental institution from June 2019 to June 2020. Around 100 male patients, who were tobacco users were included in the analysis. The patients belonged to the age group of 20 to 60 years. Type of tobacco used, duration, dependency and percentage of quitting were collected, apart from basic demographic details. The data were collected and exported to SPSS software for further statistical analysis. A chi square test was done between dependence and cessation of habit, and a p value less than 0.05 was considered to be statistically significant. Results showed, 52.9% of patients belonging to age group 20-30 were not willing to quit the habit of tobacco, 5.9% tried quitting the habit and 4.9% quit the habit completely. Though the quit rates in this study were low and compliance towards cessation procedures were not satisfactory, this cannot be conclusive or generalizable to a larger population, because of the nature of the design and limited sample being analyzed.

KEYWORDS: Dependence; Smoking cessation; Tobacco use; Willingness to quit
INTRODUCTION:
Smoking is a practice in which a substance like tobacco is burned and the resulting smoke inhaled, tasted and absorbed in the bloodstream (1). Generally, smoking has a negative health impact and it is the single largest preventable cause of morbidity and mortality all over the world (2). WHO estimates that over 1 billion people addicted to tobacco smoking, 5 million of people die from tobacco-related diseases and the death toll will rise by 2030 if this continues (3).

The effect caused by the use of tobacco and increasing the burden of tobacco use in low and middle-income countries like India is well known (4). Around 80% of the world’s 1 billion smokers live in low and middle-income countries. In India, 14% of adults were found to be smoking tobacco, and smokers constitute 24.3% of males and 2.9% females (5). The meeting held by WHO on tobacco free initiative to develop policy recommendations for smoking cessation and treatment of tobacco dependency put forward a mix of three strategies. A public health approach towards pleasant environment, Health system approach to promote sustainable healthcare system and research and information approach to increase awareness and social norms (6).

The willingness to quit smoking is the preliminary step for behavioural change in an individual. Though willing to quit is not only the projector for cessation, it is known to be highly associated with future attempts to quit and finally stop smoking (7). Key factors that hinder the provision of cessation services include provider’s lack of confidence or preparedness due to lack of tobacco cessation knowledge and training. Many health professionals emphasized the importance of tobacco cessation training in dental schools as (8) one of the major facilitators for successful tobacco cessation services in future clinical settings (9).

Smoking has been established as salient features for several systemic diseases including lung carcinoma desperately diseases and cardiovascular diseases (10). There is overwhelming evidence that tobacco use produces harmful effects in the mouth ranging from cosmetic issues such as a tooth staining to potential life threatening illnesses such as oral cancer. Oral cavity is inevitably affected by smoking (11), since it is the first part exposed to tobacco smoke. In recent years, more and more studies have found a close correlation between smoking and dental caries. In England, exposure to tobacco products for years significantly increased coronal and root caries (12). In the USA, there was a dose-dependent association between tobacco chewing and root-surface caries.

Comprehensive tobacco control programmes significantly reduce the prevalence of tobacco use. An important component of the comprehensive programme is the provision of treatment for tobacco addiction (13). Treatment involves targeting multiple aspects of addiction including the underlying neurobiological and behavioural...
processes(14). While current pharmacological and behavioural treatments are effective in improving cessation rates, the rate of relapse remains high, demonstrating the strong addictive nature of nicotine.

Previously our team has conducted cross sectional studies (15).(16).(17) systematic reviews ((18)(19) , Randomised control trials (20)(21)(22)(23). This retrospective analysis was done with a main aim to get a clear picture of the outcome of the tobacco cessation activities carried out by the institution and understand the barriers to achieve and sustain a good quit rate among patients visiting the hospital.

MATERIALS AND METHODS:

Study design
This retrospective analysis included patients who visited Saveetha Dental College and availed tobacco cessation services from the period of June 2019 to June 2020. Smoking and smokeless forms of tobacco users were included for the analysis. Informed consent obtained from the patients during the treatment.

Sampling
The sample size was 100 after reviewing 86000 case records of patients. The study consisted of males belonging to the age group of 20 to 60 years. In case of doubt the data were cross verified through telephone.

Approval
Prior to the start of the study, Ethical approval obtained from the scientific review board of Saveetha University. [SIHEC/2020/DIASDATA/0619-0320]

Data collection
The data obtained were forms of tobacco used, quitting details and Fagerstrom score for nicotine dependencies along with basic demographic variables. The independent variables were age, gender, occupation and dependent variables included were quitting rate and compliance.

Statistical analysis
The data was entered in excel sheet and then transferred to SPSS software version 25. Chi square test was done to check the association and any p value less than 0.05 was considered to be statistically significant.

RESULTS AND DISCUSSIONS:
Based on age wise distribution of study population, 36.0% males belonged to the age group of 20-30 years, 26.0% of the population belonged to the age group of 30-40 years, 21.0% of the population belonged to the age group of 40-50 years and 17.0% of the population belonged to the age group of 50-60 years. [Figure 1]. 76.0% of the males had the habit of smoking cigarettes, 15.0% of the males had the habit of pan chewing, 6.0% of the...
males had the habit of gutkha and 3.0% males had the habit of pan chewing and cigarette smoking. 73.4% of the smokers were willing to quit the habit, 20.4% of the pan chewers were willing to quit the habit, 2.4% of the gutkha users were willing to quit the habit and 3.6% paan chewers and cigarette smokers were willing to quit the habit. 20.0% of smokers who had the dependency of 1 to 3 (very low dependence) wanted to quit smoking and 1.0% of the smokers didn't want to quit smoking, 3.0% quit smoking and 2.0% of the smokers tried to quit the habit. 34.0% of smokers who had the dependence of 3-6 (medium dependence) wanted to quit smoking and 5.0% of the smokers didn't want to quit smoking, 4.0% quit smoking and 1.0% of the smokers tried to quit. 21.0% of smokers who had the dependence of 7-10 (very high dependence) wanted to quit smoking and 3.0% of the smokers didn't want to quit smoking, 3.0% quit smoking and 3.0% of the smokers tried to quit the habit.

28.68% of tobacco users belonging to age group of 20-30 years wanted to quit the habit, 1.32% of tobacco users were not willing to quit and 5.0% of them quit the habit already during the tobacco cessation session and 2.63% of the tobacco users tried quitting the habit. 13.0% of tobacco users belonging to the age group of 30-40 years wanted to quit the habit, 4.0% of tobacco users were not willing to quit and 3.0% of them quit the habit already during the tobacco cessation session and 4.0% of the tobacco users tried quitting the habit. 13.3% of tobacco users belonging to the age group of 40-50 wanted to quit the habit, 3.0% of tobacco users were not willing to quit and 4.0% of them quit the habit already during the tobacco cessation session and 3.0% of the tobacco users tried quitting the habit. 16.0% of tobacco users belonging to the age group of 50-60 years wanted to quit the habit, 1.0% of tobacco users were not willing to quit and 3.0% quit the habit already during the tobacco cessation session and 3.0% of the tobacco users tried quitting the habit.

There was a high prevalence of smoking when compared to other smokeless forms of tobacco like pan chewing and gutkha. 75.0% of the study population quit smoking. 9.0% of the smokers didn't want to stop consuming tobacco. Only 10% of the population quit tobacco completely and 6.0% of the smokers tried quitting tobacco. 34.0% of smokers with nicotine dependence of 3-6 wanted to quit smoking and 5.0% of the smokers didn't want to quit smoking. Among the smokeless forms of tobacco users 6.0% did not want to quit and 3.0% quit the habit, in our study 10.0% of the patients quit smoking completely, in a study by Judith et al. All 64% of the smokers quit smoking (24) In our study 10.0% stopped smoking 6.0% tried quitting. In another study by Rupin Wang, Al 15.93% stops smoking (25). In our Study 6.0% of patients tried quitting and succeeded 10.0% completely quit. In another study by Shanti Muniandy et al 72.0% of patients attempted to stop smoking but failed (26).

In our study 76.0% were current smokers. In a study by R. Wang et al. Al 23.53% was current smokers,(25) In this study only 75.0.0% were willing to quit smoking while in a study by Mahindra M reddy 50.9% were willing to quit smoking. (27). The mean Fagerstrom nicotine test dependency score among the subjects was found to be 2.7 ± 1.3, with minimum score being 1 and maximum score being 5, which suggested that the nicotine dependency of these subjects only ranges from low to moderate and not very high and in a study by Pallavi 3.56 ± 2.115 was the mean score of Fagerstom nicotine dependence. From this study we can understand that nicotine dependence was less when compared to the study by Pallavi (28). In this study 73.4% of the tobacco users wished to quit smoking and in a study by Lorena et al 84% of them quit smoking (29).
Owing to the study design, the current study did not record details like initiation, trigger and duration of habit, attempts on quitting and other important factors like education, socio economic status and occupation, which would have an effect on the patient’s compliance towards treatment and overall quit rates. Probably a future prospective study with ample sample size would help to fill the lacunae and throw a light on intricacies in tobacco cessation activities, which would naturally improve the compliance and abstinence rate.

Figures and Graphs

Figure 1: Pie chart shows age wise distribution of patients, in which majority, 36.0% males belonged to the age group of 20-30 years (lavender), 26.0% of them belonged to the age group of 30-40 years (beige). 21.0% of them belonged to the age group of 40-50 years (brown). 17.0% of them belonged to the age group of 50-60 years (maroon)
Figure 2: Pie chart represents the distribution of population based on the habit of tobacco. Majority, 76.0% of the males had the habit of smoking cigarettes (grey).

Figure 3: A simple bar chart representing the willingness of the tobacco users to quit the habit. X axis represents the type of tobacco products used. Y axis represents the percentage of tobacco users willing to quit. Majority (73.49%) of the respondents, who had a habit of smoking cigarettes showed willingness to quit (grey).

Figure 4: A multiple bar chart representing the status of quitting the habit based on nicotine dependence. X-axis represents the nicotine dependence score and Y-axis represents the percentage of quit status. Smokers (34.0%) with a dependence score of 3-6 (medium dependence) wanted to quit the habit, which formed the majority. A Chi square test between dependence and cessation of habit was done [df =6; p =0.776 >0.05 statistically not significant] and it was not statistically significant, proving that the level of dependency does not have any effect on the quit status of each patient.
Figure 5: A multiple bar chart representing the age and percentage of quit status of tobacco users. X-axis represents the age and Y axis represents the percentage of quit status. Majority of the tobacco users were willing to quit their habit in the 20 to 30 years age group. A Chi square test was done to check the association between the status of quitting and different age groups among the study population [Chi square value10.969; df =6; p =0.278] and it was not statistically significant. Proving that difference in quit status across age groups were only due to a chance in this group and not significant.

CONCLUSION:
Within the limitations of the current study, it can be concluded that, Majority of the tobacco users, who were willing to quit were young (20-30 yrs age group) and had the habit of smoking. In terms of nicotine dependency as a factor influencing compliance, patients with low to moderate dependency score had the highest percentage of willingness to quit. Since the study had a majority of young age groups who had only cigarette smoking habits, the conclusions based on this retrospective analysis is not generalisable. Hence a prospective trial with intricate details on triggers and patient centric interventions would prove useful in terms of an evidence based approach.

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AUTHORS CONTRIBUTION
Reshmi has contributed to the data collection, study design, analysis, results, tables
and manuscript preparation.

Dr. D. Sri Sakthi contributed to the design of the study, analysis of the data, results and manuscript preparation and proofreading of the manuscript.

Dr. Arvind has contributed to reviewing the article.

CONFLICTS OF INTEREST
The research projects are self funded and are not sponsored or aided by third parties. There is no conflict of interests

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