Prevalence of Oral Lesions and Adverse Oral Habits in Residents of a Specific Locality in Chennai

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Abstract

Aim:

To assess the prevalence of oral lesions and adverse oral habits in residents of a specific locality in chennai.

Materials and method:

Questionnaire based survey with oral screening. 100 subjects were evaluated in this study in a specific locality in chennai.

Results:

In this study a total of 100 people were screened. Out of 100, 65 were females 35 were male subjects. The prevalence of oral lesions was found to be 15%. The oral lesions which were found during the clinical examination includes lingual tonsils (6%), fissured tongue (4%), aphthous ulcer (4%), lichen planus (1%). 23% of people have the habit of smoking, 15% of people paan chewing, 12% tobacco chewing and 10% of people consumed alcohol in this study.

Conclusion: The prevalence of oral habits and lesions were significantly less in the present study. Epidemiological studies helps in finding out the disease in a specific area so that special programs can be conducted to make the people aware of the oral lesions and adverse oral habits.

Keywords: oral lesions, adverse habits, smoking, dental hygiene, oral cancer

Introduction

Oral health is important to maintain a healthy lifestyle. Oral lesions can cause discomfort or pain that is associated with mastication, swallowing, and speech, and they can cause symptoms such as halitosis, xerostomia, or oral dysesthesia, which interferes with the daily lifestyle.(1) Infections caused due to bacteria, fungi, viruses, parasites, and other agents, physical and thermal influences, changes in the immune system, systemic diseases, neoplasia, trauma, are some of the factors which causes changes in the oral mucosa. (2, 3)

Adverse oral habits such as using tobacco or alcohol consumption can cause precancerous or cancerous lesions. Dental factors (poor oral hygiene, sharp teeth, electrogalvanism, the use of mouthwashes, or improperly fitting dentures) have been thought to play a role in the incidence of oral precancerous and cancerous lesions.(2,4)

In India and other South Asian countries, high prevalence rates for oral precancerous lesions and oral carcinomas have been reported. Tobacco use either in the smokeless or chewable form is a recognised risk factor for cancerous or pre-cancerous lesions of the oral mucosa. (5, 6)

Several oral lesions such as leukoplakia, erythroplakia and lichen planus represent increased risk factors for malignant transformation in the oral cavity. Oral submucous fibrosis (OSMF)isa potentially malignant disorder, the occurrence of which is increasing in the current days, especially among the younger generation in South Asia. (7)

There are various resources showing the potential for malignant transformation of oral potentially malignant disorders. (8-11)Oral premalignancy can lead to oral cancer through three potential routes: oral leukoplakia (erythroplakia) turning to cancer, oral submucous fibrosis turning to cancer sequence, and oral lichen planus turning to cancer. The first pathway is related to oral leukoplakia which is the most common oral pre-cancerous lesion.(12) However, the rates of this malignant transformation may not be representative of the natural course of progression for oral leukoplakia. Using a three-stage model, Shiu and Chen (13) reported that the natural course and progression of oral leukoplakia and calculated the odds ratio which ranges from 0.0003 to 0.113 per year. . But this model did not account for the individual type of leukoplakia and their transformation potential. (14) Leukoplakia is

common in India, particularly in individuals with various smoking and chewing habits. From a study of more than 50,000 villagers from different geographic locations in India, Mehta et al (15) reported a prevalence varying from 0.2 to 4.9%.

Betel quid is one of the most important factor which are responsible for many of the oral lesions. In South and Southeast Asia and the Asia Pacific region, betel quid/areca nut use has been commonly used for a long time and is also common among migrated communities in Africa, Europe and North America. Its use is socially acceptable among all the sections of the society due to its ancient history, including women and quite often, children. Areca nut (a main constituent in betel quid) is the fourth most common psychoactive substance in the world (after caffeine, alcohol and nicotine), and is roughly used by seven hundred million people .In its most basic form, betel quid is a mixture of betel leaf, areca nut and slaked lime (aqueous calcium hydroxide paste). In many of the countries, tobacco is commonly used in combination with betel quid. Areca nut is the main psychoactive substance in betel quid if tobacco is not added. (16)

There is a great spectrum of variation in the ingredients and ways of preparing betel quid. The different forms of areca nut arebetel leaf, (green unripe; ripe but raw; baked roasted or boiled; fermented; or, processed with sweeteners and flavours), and, ingredients consisting of spices, condiments, tobacco and lime. The lime is applied by the betel quid chewers separately through a spatula at the commissure of the mouth in countries such as Papua New Guinea. (17)Among the different groups of the Southeast Asian countries, betel quid chewers commonly add tobacco to the quid along with habits like are also common among such populations. In the hill tribes of Thailand, Cambodia, Myanmar and Laos includes cloves, cinnamon and the roots of certain local plants in their betel quid. (18) In most of the countries, the oral adverse habits appears more and more to be confined to the elderly, while retaining ceremonial value in some areas.

The study was planned to determine the spectrum of oral lesions in a specific locality in Chennai. Epidemiological studies provide information on the prevalence, incidence and distribution of the oral lesions in a specific location.

Materials and Methods

The study was conducted among the people residing in a specific locality in chennai. A total of 100 participants were recruited into the study out of which 65 were female and 35 were male, who satisfied the criteria of being above 15 years. A door to door survey was conducted in which the people were asked to answer the questions. A closed ended questionnaire of 15 questions was included in the survey. Also each participant was subjected to a clinical examination of the oral cavity using mouth mirror, probe and adequate light. All the accessible surfaces of the oral cavity were examined carefully to find out if any oral lesion was present.

Figure 1: Questionnaire

Questionnaire

1. Frequency of brushing the teeth?
A) Once B Twice C) More than twice
2. Do you clean your teeth with a floss?
A) Yes B) No
3. Do you rinse your mouth between meals?
A) Sometimes B) Often C) Never
4. How often do you visit a dentist?
A) When you have pain B) For routine dental check up C) Never been to a dentist
5. Do you have any of the following adverse oral habits?
A) Smoking B)drinking C) Pan chewing D) Areca nut E) Tobacco chewing
6. If you have any particular oral habit, what is the frequency of that habit?
A) Once a day B) Several times a week C) Not very often
7. If you have any particular habit, did u try to quit the habit?
A) Yes B) No
8. If you have any particular habit, are you aware that the particular habit can have an adverse effect on the oral cavity and can also cause oral lesions?
A) Yes B) No
9. Are you aware of any oral lesions in your mouth?
A) Yes B) No
10. Have you undergone any treatment for the oral lesions ?
A) Yes B) No
11. Are you aware that improper oral hygiene can lead to the development of oral lesions ?
A) Yes B) No
12. Do you think the oral lesions in the mouth can be associated with any other systemic diseases?
A) Yes B) No C) Not sure
13. What are the precautions that you take to prevent yourself from oral lesions?
A) Routine dental check up
B) Quit the adverse oral habits
C) Proper oral hygiene
14. What are the treatment modalities for the oral lesions?
A) Surgical excision
B) Antibiotics
C) Topical creams and ointments
15. Do you think that the occurrence of oral lesions is specific to a particular age group?
A) Yes B) No C) Not sure

Results

Table 1: Questionnaire with responses

Frequency of brushing the teeth	Once	Twice	More than twice
	68(68%)	32(32%)	0
Cleaning the teeth with a floss	Yes	No	
	87(87%)	13(13%)	
Rinsing mouth between the meals	Sometimes	Often	Never
	16(16%)	57(57%)	27(27%)
Reasons for visiting a dentist	Pain	Routine dental check up	Never been to a dentist
	76(76%)	14(14%)	10(10%)

Adverse oral habits	Smoking	Alcohol	Pan chewing	Tobacco chewing
	38(38%)	17(17%)	25(25%)	20(20%)
Frequency of the adverse oral habit	Once a day	Several times a week	Not very often	
	15(15%)	80(80%)	5(5%)	
Attempt to quit the habit	Yes	No		
	70(70%)	30(30%)		
Adverse oral habits can lead to oral lesions	Yes	No	Not sure	
	57(57%)	38(38%)	5(5%)	
Aware of oral lesions in the mouth	Yes	No		
	97(97%)	3(3%)		
Undergone treatment for oral lesions	Yes	No		
	0	100(100%)		
Awareness of improper oral hygiene can lead to oral lesions	Yes	No		
	66(66%)	34(34%)		
Awareness of oral lesions can be associated with systemic diseases	Yes	No	Not sure	
	51(51%)	10(10%)	39(39%)	
Precautions to prevent oral lesions	Routine dental check up	Quit the adverse habit	Proper oral hygiene	
	13(13%)	20(20%)	67(67%)	
Treatment modalities for oral lesions	Surgical excision	Antibiotics	Topical creams and ointments	
	14(14%)	57(57%)	29(29%)	
Occurrence of oral lesions is specific to a particular age group	Yes	No	Not sure	
	4(4%)	83(83%)	13(13%)	

The results of the study is reported based on the survey which included a questionnaire comprising of 15 questions. The study showed that predominant adverse habit was smoking (fig 2) with a prevalence of 38% (38), the second being paan chewing with 25% (25), followed by tobacco chewing with 20% (20) and consumption of alcohol 17% (17). The people was also assessed if they were aware that adverse oral habits can lead to the occurrence of oral lesions, 57% (57) of the people was aware, 38% (38) of the people were not aware and 5% (5) of the people were not sure (fig 3).

Also none of the responders have undergone any treatment for the oral lesions (fig 4). The participants were assessed on their awareness if oral lesions can be associated with the other systemic diseases affecting the body, 51% (51) of the people were aware, 39% (39) of the people were not aware and the remaining 10% (10) of the people were not sure about this (fig 5). 67% (67) of the responders felt that the maintanence of proper oral hygiene can prevent the occurrence rate of oral lesions, 20% (20) of the people felt that quiting the adverse oral habit can have a great impact, and the remaining 13% (13) of the people felt that routine dental check upcan prevent oral lesions (fig 6). Ironically a majority of the participants 57% (57) felt that these lesions can be treated with antibiotics, 29% (29) with topical creams and ointments and the remaining 14% have opted for surgical excision of the lesion (fig 7).

Figure 2: Adverse oral habits

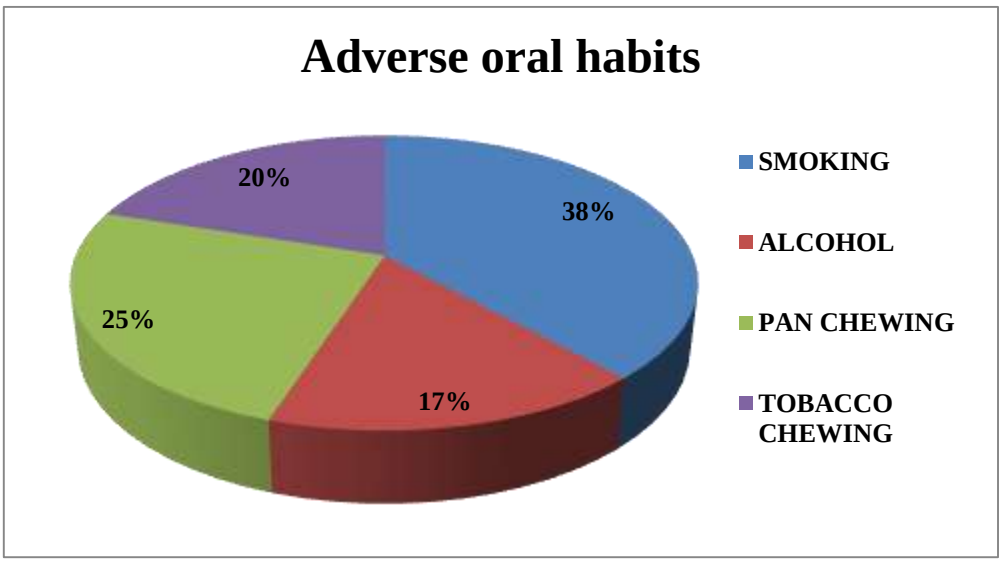


Figure 3: Adverse oral habits can lead to oral lesions

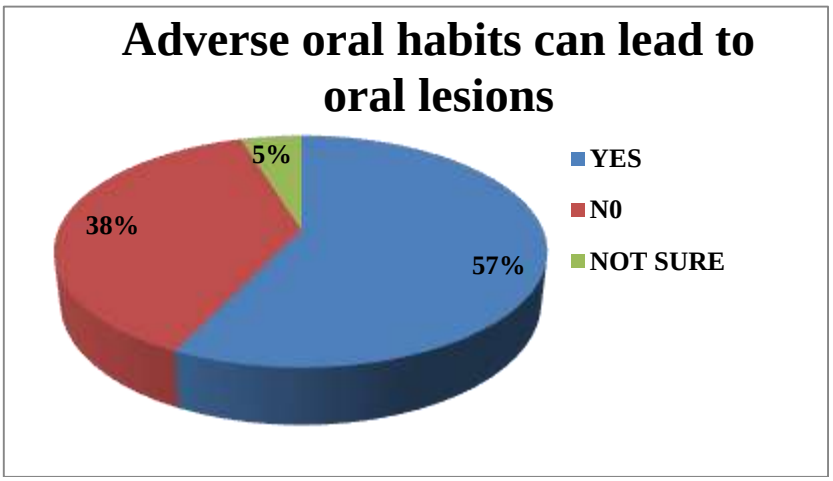


Figure 4: Undergone treatment for oral lesions

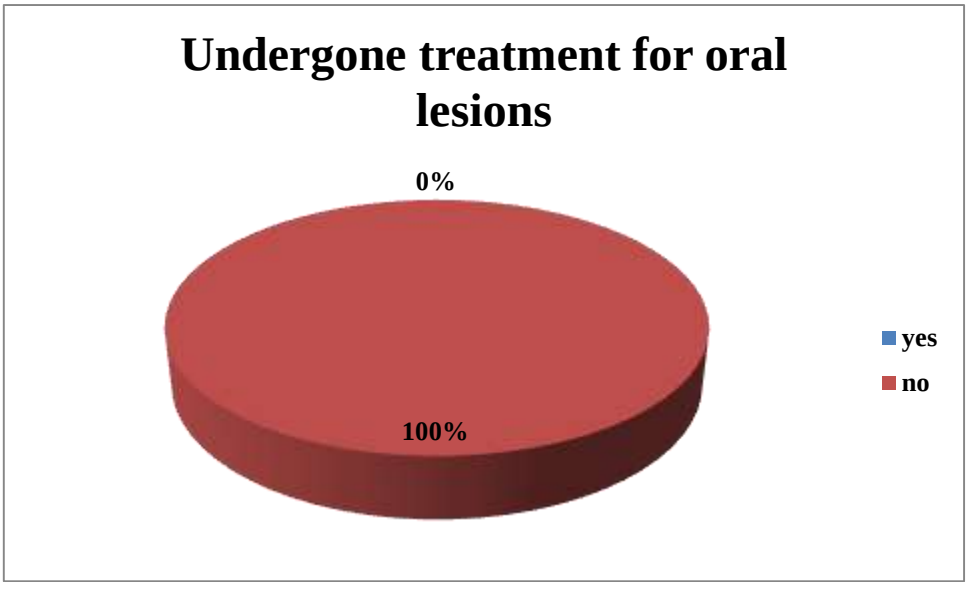


Figure 5: Awareness of oral lesions can be associated with other systemic diseases

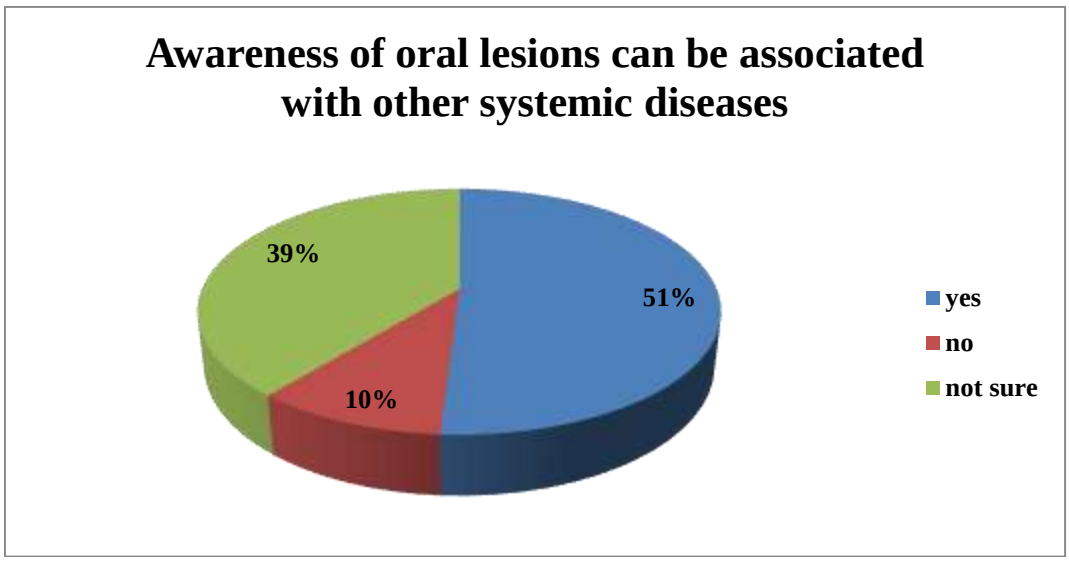


Figure 6: Precautions to prevent oral lesions

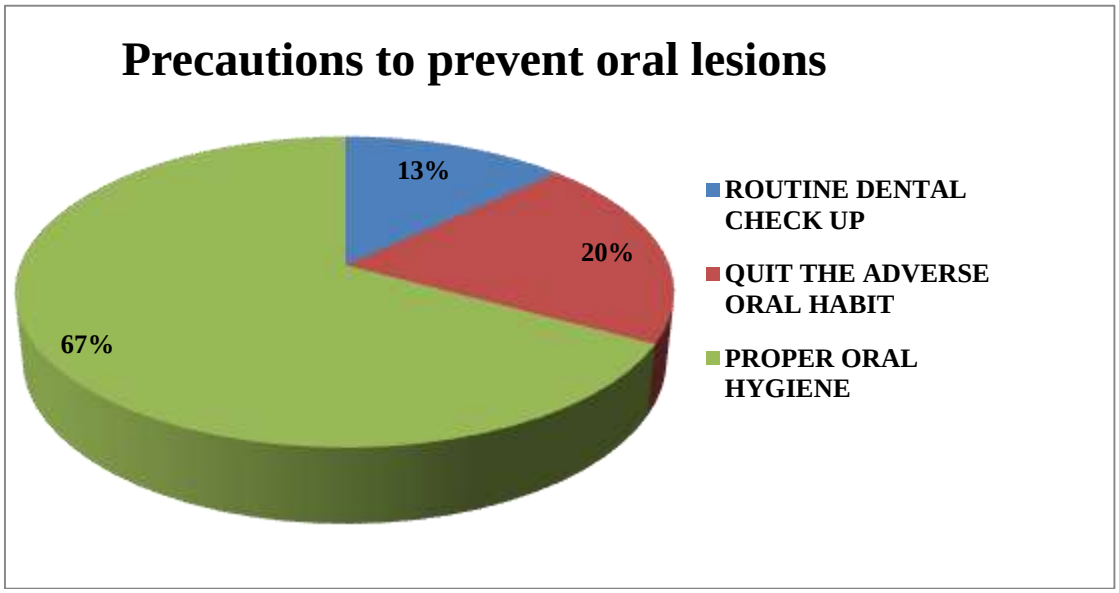
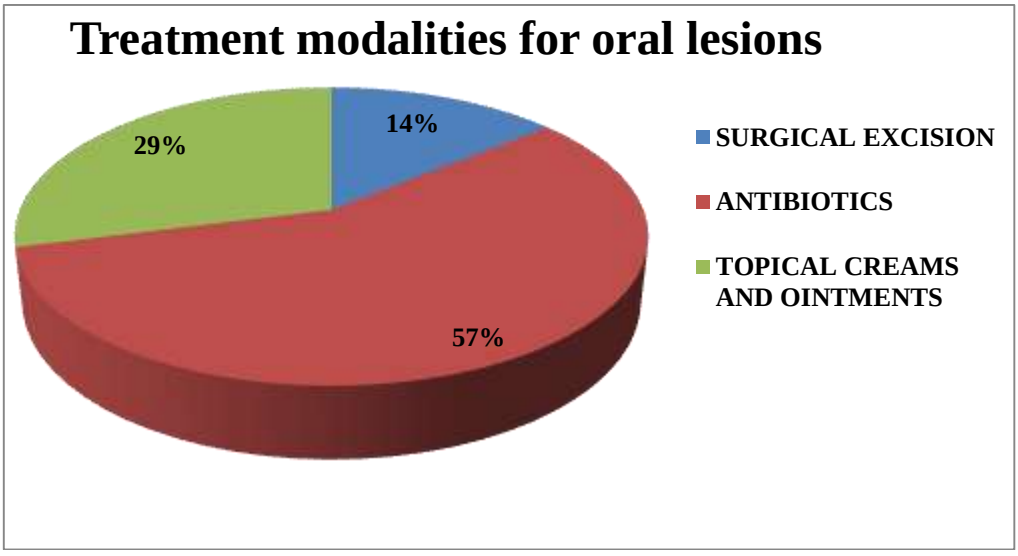


Figure 7: Treatment modalities for oral lesions



Discussion

In this study a total of 100 people were screened. Out of 100, 65 were female 35 were male subjects.The study showed a prevalence of the oral lesions at 15%. The oral lesions which were found during the clinical examination include lingual tonsils (6%), fissured tongue (4%), aphthous ulcer (4%), lichen planus (1%). The oral lesions were significantly less in this study and this can be due to the improved oral hygiene practices followed by the people and also due to the better awareness about their oral health.

Espinoza et al (19) reported the prevalence of oral lesions with 53%. However, these results differed from studies from Mexico reported by Mosqueda- Taylor et al (20) with a 95% of oral lesions. Gonzalez et al (21) in Mexico, demonstrated a prevalence of 23.2%. Other series reported in Spain, documented a 39% of aged patients presenting oral mucosa alterations (22)The age, gender, educational level, socioeconomic status, culture, medication used, systemic diseases are factors that could predispose the presence of oral lesions.

The questionnaire also included questions pertaining to the basic dental hygiene practices. 68% of people brush their teeth once daily and 32% of people brush their teeth only once a day (Fig 1). 87% of people use floss as an aid to clean their teeth while 13% of people were not aware about the usage of floss (fig 2). 57% of people frequently have the habit of rinsing their mouth, 16% of people seldom rinse their mouth and 27% of people never rinse their mouth in between the meals (fig 3). 76% of people visit the dentist only when they have pain, 14% of people for routine dental check up and 10% of people have never been to a dentist (Fig 4). This indicates the lack of awareness of proper dental hygiene among the individuals.

Coming to the adverse oral habits, 38% of people have the habit of smoking, 25% of people paan chewing, 20% tobacco chewing and 17% of people consume alcohol in this study (fig 5). Among the people who were exposed to the adverse habit, 15% of people use them once day, majority of the people 80% use them several times a week and 5% of people don't use them very often (fig 6). The prevalence of the adverse oral habits was higher in men compared to women. 70% of people made an attempt to quit the habit whereas the remaining people did not (Fig 7). In previous studies the prevalence of alcohol consumption was found to be 8.78% which is less as compared to this study. (23) However their prevalence of smoking (15.02%) and tobacco chewing (6.99%) was also low compared to this study. (23).

In another study conducted the prevalence of the habits was found to be more among men when compared to women. (24) Also, the prevalence was higher among the rural population and those with no formal education. (24)

A set of house-to-house surveys in India was conducted in the 1960s in over 50,000 individuals 15 years of age and above with roughly equal numbers of males and females in 5 disparate districts in 4 states (Andhra Pradesh, Bihar, Gujarat, Kerala) showed a range of betel quid usage prevalence of 3.3% to 37% in a study conducted by Mehta et al. (25)

Over 30% of both men and women aged 15 years and older chewed betel quid along with tobacco in Ernakulam, Kerala. A highest prevalence was found in this region and again the study was carries in the late 1970s and the early 1980s. (26, 27)

From 1992 to 1994, a study was conducted in Mumbai, India, comprising of 99,598 residents 35 years and older, belonging to the middle and the lower socioeconomic strata. Gupta PC reported in his study that the use of areca nut was found to be 29.7% among the women and 37.8% among men, almost all with tobacco, whilethe smokeless tobacco habits were reported by 57.1% women and 45.7% men. (28)

Only 57% of people were aware that the oral habits can have an adverse effect on the oral cavity, 38% of the individuals were not aware and 5% of the people were not sure about this (fig 8). 97% of people were not aware of the different oral lesions (fig 9) and none of them have undergone any treatment for the lesions (fig 10). Only 66% of people were aware that improper oral hygiene can lead to the development of oral lesions (fig 11).

51% of the responders were aware that oral lesions can be associated with the other systemic diseases, 39% of the people were not aware and 10% of people were not sure about this (fig 12). 67% of the people stated that maintaining proper oral hygiene as a preventive measure to prevent themselves from the oral lesions, 20% of people have stated quitting the oral habit, and 13% of people stated by having a periodic visit to the dentist (fig 13). 57% of the people have chosen antibiotic as a treatment modality for the oral lesions, 29% by topical creams and ointments and 14% by surgical excision (fig 14). 83% of the people stated that the occurrence of oral lesions cannot be related to a specific age group (fig 15).

Conclusion

The finding of the present study provides information on the prevalence of the oral habits and oral lesions in a specific locality in chennai. The results showed that the adverse habits were seen more in males than females. The most common adverse habit which was prevalent was smoking followed by paan chewing, tobacco chewing, and alcohol consumption. The common oral lesion which was found in this locality was lingual tonsils, followed by fissured tongue, aphthous ulcer and lichen planus. The patients were educated and encouraged to give up the adverse habit. They were also made aware of the different complications of the habits in the oral cavity and how to prevent them. The patients with oral lesions were asked to have a routine dental check up. Epidemiological studies helps in finding the prevalence of oral lesions in a specific area. Special programs can be conducted to improve oral health in the specific population.

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