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RESEARCH ARTICLE

Prevalence of Oral Submucous Fibrosis in Patients visiting Dental College in Rural Area of Jaipur, Rajasthan

Rohit Sharma, S Sunder Raj, Gaurav Miahra, Y Giridhar Reddy, Shailesh Shenava, Praful Narang

ABSTRACT

Objectives: The study was conducted to assess the prevalence of oral submucous fibrosis among patients visiting dental college in rural area of Jaipur, Rajasthan aged 15 years and above.

Materials and methods: A cross-sectional study was conducted to access the prevalence of oral submucous fibrosis among 6,800 outpatients at NIMS Dental College in rural area of Jaipur, Rajasthan. Subjects were interviewed using a structured proforma. The clinical diagnosis of OSMF was made when patient showed characteristic features of OSMF. The statistical analysis was done with SPSS software version 11.5.

Results: The prevalence of OSMF in the study population was 231 (3.39%). Majority of subjects were males 188 (81.38%). The prevalence of OSMF was maximum in 15 to 24 years of age group 98 (42.42%).

Conclusion: The observations and findings of the study clearly indicate that prevalence of OSMF and use of smokeless tobacco is on the rise in younger age group.

Preventive measures like awareness programs should be started as early as possible. Tobacco counselling on various smokeless tobacco products, like gutkha, khaini, betel nut, cessation program should be periodically conducted.

Keywords: Prevalence, Oral submucous fibrosis, Arecanut.

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INTRODUCTION

Oral submucous fibrosis (OSMF) is a chronic, progressive, scarring disease that predominantly affects the people of South-East Asian origin. This condition was described first by Schwartz (1952) while examining five Indian women from Kenya, to which he ascribed the descriptive term 'atrophia idiopathica (tropica) mucosa oris'. Later in 1953 Joshi from Mumbai, redesignated the condition as 'Oral submucous fibrosis'.[1-11]

The WHO definition for an oral precancerous condition 'A generalized pathological state of the oral mucosa associated with a significantly increased risk of oral cancer', accords well with the characteristics of oral submucous fibrosis.[11] The disease is predominantly seen in India, Bangladesh, Sri Lanka, Pakistan, Taiwan, Southern China and other countries.[12]

The reasons for the rapid increase of the disease are reported to be due to an upsurge in the popularity of commercially prepared arecanut preparations (gutkha, pan masala) in India and an increased uptake of this habit by young people is because of addiction to this habits.[12,13]

People visiting outpatient department, dental college in rural area of Jaipur, Rajasthan, commonly use tobacco products, like arecanut, pan, gutkha and khaini, etc. and precancerous conditions like oral submucous fibrosis has been widely prevalent among them. So, this study was conducted to access the prevalence of OSMF among patient seeking dental care, aged 15 years and above.

MATERIALS AND METHODS

A cross-sectional study was conducted in Outpatient Department, NIMS Dental College in rural area of Jaipur, Rajasthan. Total of 6,800 patients were interviewed and examined for oral submucous fibrosis for time period of 6 months from July 2010 to December 2010.

Subjects willing to participate and aged 15 years and above were included in the study. Subjects with any systemic diseases and malignancy were excluded from the study. An ethical clearance was obtained from ethical committee of Dental College and Hospital, Jaipur. Oral consent was obtained from each participant prior to the study. A pilot study was conducted to check the validity of the questionnaire and based upon the results; modification was done in the design of the questionnaire.

Patients were classified into five age groups: 15 to 24 years, 25 to 34 years, 35 to 44 years, 45 to 54 years, 55 years and above. The examination was done by principal examiner and trained recording clerk was present to record the data in the predesigned proforma. The clinical diagnosis of OSMF was made when subject showed characteristic features of OSMF, blanching and stiffness of the oral mucosa, presence of palpable bands in the buccal or labial mucosa and difficulty in mouth opening and protruding the tongue.[12-15]

Armamentariums used were sterile mouth mirror, explorer, tweezers, kidney tray instrument pouch, savlon, disposable surgical latex gloves, disposable mouth mask and questionnaires.

The statistical analysis was done with SPSS software version 11.5.

RESULTS

Out of 6800 subjects, 231 (3.39%) subjects presented with OSMF (Table 1). Majority of subjects 98 (1.44%) belong to 15 to 24 years of age group, followed by 93 (1.36%) subjects in 25 to 34 years, 27 (0.39%) subjects in 35 to 44 years, 13 (0.19%) subjects in 45 to 54 years and no characteristics of OSMF were seen in subjects belonging to age group of 55 years and above.

Graph 1: Majority of the study subjects 1924 (28.9%) were in 25 to 34 years of age group, 1502 (22.08%) in 15 to 24 years of age group, 1312 (19.29%) in 45 to 54 years age group, 1144 (16.82%) in 35 to 44 years age group and small proportion 918 (13.5%) belong to 55 and above.

Graph 2: It shows 4998 (73.5%) of the study subjects were males as compared to 1802 (26.5%) females and 188 (81.38%) subjects males were had OSMF compared to 43 (18.62%) females.

Table 2 shows that out of 6,800 subjects, 1,877 (27.60%) subjects had different kinds of smokeless tobacco habits. Majority of the subjects 1,044 (15.35%) had gutkha chewing habit, 467 (6.42%) subjects had a habit of using arecanut and tobacco, 366 subjects (5.38%) used arecanut.

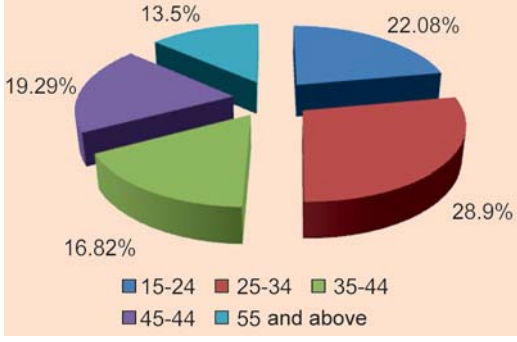
In the present study, OSMF was seen in 231(3.39%) subjects out of whom 135 (58.44%) subjects had gutkha chewing habit, 52 (22.51%) subjects chewed arecanut and tobacco and 44 (19.04%) subjects used arecanut.

DISCUSSION

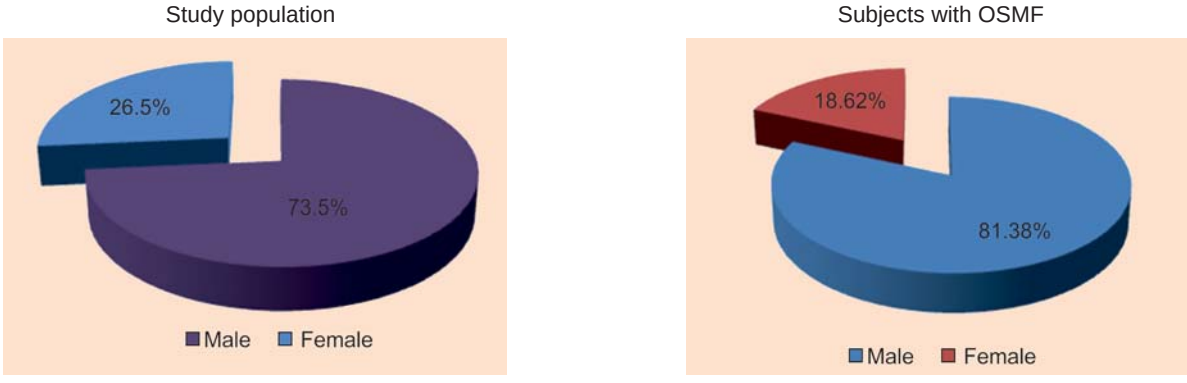
The overall prevalence of OSMF in the present study was 231 (3.39%) which correlates to the study by Seedat HA in which prevalence of submucous fibrosis were 3.4%.[16] However, study done by Pindborg et al showed lower prevalence.[2]

The increasing prevalence could be attributed to increasing trend in consumption of arecanut and arecanut-based products which are addictive and psychoactive in nature.[17-20] As per the present study, these products are commonly being used by the people visiting outpatient department, dental college in rural area of Jaipur.

In the present study, higher number of the OSMF subjects 98 (1.44%) and 93 (1.36%) belong to 15 to 24 and 25 to 34 years age group respectively. Similar results were obtained in the study conducted by Anuradha P and Gaurav Mishra (2011),[21] Sami MA et al (2006)[18] and Haider SM et al (2000)[22] in 25 to 34 and 35 to 44 years age group.



Graph 1: Distribution of study population according to age groups



Graph 2: Distribution of study population and subjects with OSMF according to male and female

Table 1: Age distribution of study population and subjects having OSMF

Variables	*Years*	*Total subjects*		*Subjects with OSMF*	
		No	*%*	*No*	*%*
Age	15-24	1502	22.08	98	1.44
	25-34	1924	28.9	93	1.36
	35-44	1144	16.82	27	0.39
	45-54	1312	19.29	13	0.19
	55 and above	918	13.5	0	0
	Total	6800	100	231	3. 39

Table 2: Association of smokeless tobacco habits with presentation of OSMF

Habits	*Subjects*	*OSMF*
Arecanut and tobacco (pan, khaini, etc.)	467 (6.42%)	52 (22.51%)
Arecanut (supari, etc.)	366 (5.38%)	44 (19.04%)
Gutkha	1044 (15.35%)	135 (58.44%)
Total with percentage	1877 (27.60%)	231 (3.39%)

In present study, among 231 OSMF subjects 188 (81.38%) were males and 43 (18.61%) were females, thus showing a male predominance with a ratio of 4.3:1, similar male predominance was also reported in several studies: Anuradha P and Gaurav Mishra (2011),[21] Afroz N et al (2006)[23] where male:female ratio was 4:1.

In present study, prevalence of OSMF among patients chewing gutkha was higher, 135 (58.44%), this finding is similar with the study done by Goel S et al (2010)[24] which showed commercial areca nut products 40% among OSMF subjects and Ahmad MS et al (2006)[25] showed that 69% were using gutkha.

CONCLUSION

The result of the present study provides information of OSMF finding in rural area of Jaipur, Rajasthan. The observations of the study indicate that prevalence of OSMF and usage of smokeless tobacco among younger age group is on the rise in Jaipur.

Preventive measures like awareness programs should be started as early as possible. Further studies should be conducted regularly to monitor prevalence of oral submucous fibrosis in different areas where arecanut and its products are prevalent. Dental patients can serve as baseline data for future studies on the prevalence of OSMF in general population.

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