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ORIGINAL RESEARCH

Prevalence of Deleterious Oral Habits and Oral Mucosal Lesions among Fishermen Population of Mahe, South India

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ABSTRACT

Introduction: Fishing is an occupation associated with uneven diet, strain, drunkenness, tobacco use, and deleterious habits. The physical state of laborers on a large scale will also be influenced by conditions at their work site. Oral mucosal lesions can occur as a result of infections, local shock or infuriation, systemic diseases, and uncontrolled usage of tobacco, betel quid, and alcohol. The aim of the present study is to assess the prevalence of deleterious oral habits and oral mucosal lesions among fishermen population of Mahe, South India.

Materials and methods: The study population consists of 362 fishermen aged between 15 and 54. The questionnaire consisted of questions on personal data, and information related to the subjects' oral habits were collected by the interview. The World Health Organization (WHO) Oral Health Assessment Form was designed for the assessment of oral mucosal lesions.

Results: Among the 362 fishermen, 266 (73.48%) were males and 96 (26.52%) were females. The overall prevalence of smoking, alcohol consumption, and gutka chewing was found to be 24.3, 48.85, and 32.4% respectively. Smokeless tobacco (32.4%) was the most prevalent habit followed by smoking tobacco (24.3%). The prevalence of oral mucosal lesions was 14.9%. There is a statistically significant association between age groups and habits considered.

Conclusion: Findings of the present study suggest that oral health condition of the fisherfolk community was relatively poor, with high habit prevalence and oral mucosal lesions. This epidemiological study has provided baseline data to plan further research in this area.

Clinical significance: Low socioeconomic status, strenuous working hours, inadequate diet and nutrition intake, stress, and use of tobacco and alcohol act as contributing factors for ill health and oral diseases. It is a challenging population to the clinician to identify and treat them.

Keywords: Alcohol consumption, Fishermen, Oral mucosal lesions, Tobacco.

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INTRODUCTION

Almost 80% of the Indian populace live in rural areas and have no access to dental care, and a large proportion of them is illiterate.[1] The disparity in oral health status of humans is highly contingent on factors like social work, values of our society, level of comfort, and geographic location.[2]

One such group, which fit in the lower socioeconomic strata in India, is the fisherfolk community, who reside in defined topographical area along the coastline. Fishing is an occupation associated with uneven diet, strain, drunkenness, tobacco use, and deleterious habits. It is said that the fisherfolk use tobacco products to keep away from seasickness and stay vigilant during the night while

working at sea and have the habit of consuming alcohol after a day's backbreaking work.[3]

Mahe, also called as Mayyazhi, which is a part of the Union territory of Puducherry with a coastal line of 1.37 km and 15 km^2, extends on the west coast with fishermen population of about 6,000. The diet of fisherfolk normally lacks fruits and vegetables, and meals are eaten at irregular intervals.[4] Their unfamiliar working schedules involving long time at sea and only short time on coast make fishermen difficult to contact, thereby making them a challenging study population.

Low socioeconomic status, strenuous working hours, inadequate diet and nutrition intake, stress, and use of tobacco and alcohol act as contributing factors for ill health and oral diseases. To date, not much literature is available with regard to the oral health of this population. Hence, this study was done to assess the same.

MATERIALS AND METHODS

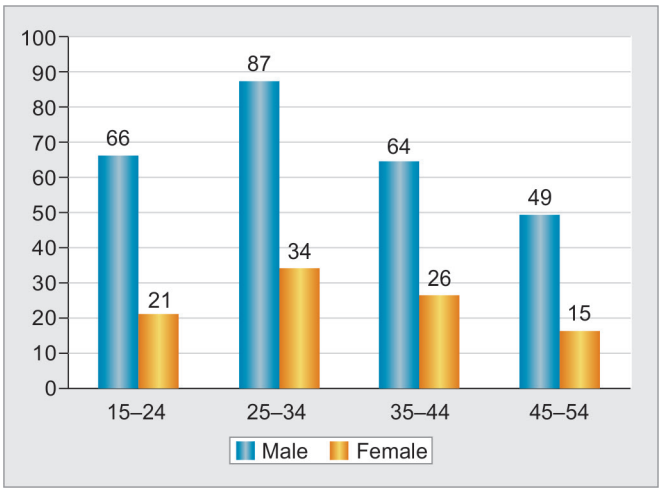
The study population consists of fishermen of Mahe. Subjects aged 15 to 54 years with fishing as their prime occupation were selected for the study. Information regarding personal data, tobacco consumption, and alcohol intake was obtained through an interview by a trained interviewer. Type 1 examination was carried out for the oral mucosal lesions and recorded in the World Health Organization Oral Health Assessment Form (1997)[5] as a prototype. Ethical approval for the study was obtained from the Institutional Review Board, Coorg Institute of Dental Sciences, Virajpet. Informed consent was obtained from the subjects before participating in the study.

The sample size was calculated as $n = N/1 + (N \times e^2)$, with a confidence interval (e) of 95%, marginal error of 0.05, and total population (N) 6,000; the sample size was calculated to be 362. Entire Mahe region is a municipal corporation consisting of 15 wards. A stratified proportionate random sampling was chosen for recruitment of study participants. Individuals who were not willing to participate were excluded from the study. The recorded data were compiled and entered in a spreadsheet computer program (Microsoft Excel 2007) and then exported to data editor page of Statistical Package for the Social Sciences (SPSS) version 20. Chi-square test was applied.

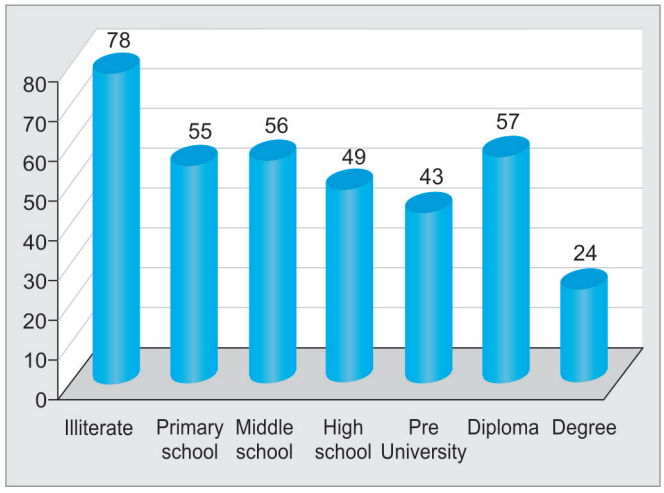
RESULTS

Among the study subjects, 266 (73.48%) were males and 96 (26.52%) were females, as shown in Graph 1. The majority of the study participants were found to be illiterate (21.5%), and 24 (6.9%) participants gave a response as having been awarded a degree (Graph 2).

Table 1 reveals that among the study participants (age groups 15 to 24, 25 to 34, 35 to 44, 45 to 54), 88 (24.3%) were smokers, 116 (32.4%) chewed tobacco,



Graph 1: Distribution of study subjects by age and sex

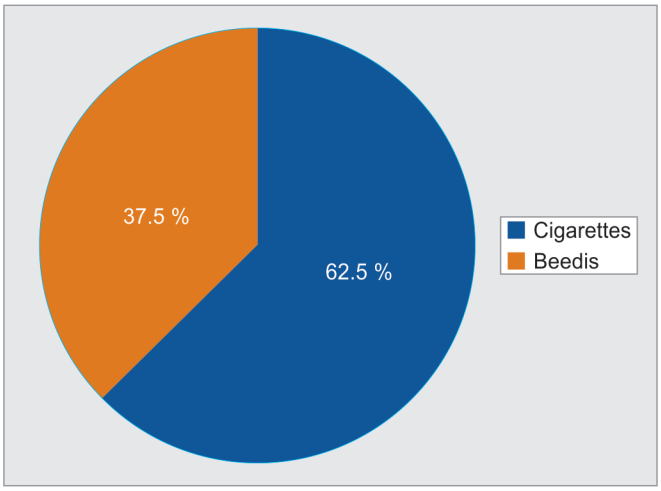


Graph 2: Distribution of study subjects by level of education

Table 1: Age-wise distribution of study subjects according to habits

Age groups	Smoke		Chew		Consume alcohol		All the habits		Smoke and chew		Smoke and consume alcohol		Chew and consume alcohol		
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*p*-value
15–24	31	35.6	36	41.3	16	18.3	3	3.4	26	29.8	9	10.3	2	2.2	0.001*
25–34	25	20.6	41	33.8	64	52.8	19	15.7	19	15.7	17	14.4	22	18.1	
35–44	19	21.1	16	17.7	54	60	10	11.1	8	8.8	11	12.2	11	12.2	
45–54	13	20.3	23	35.9	43	67.1	8	12.5	12	18.7	6	9.3	13	20.3	
Total	88	24.3	116	32.4	177	48.8	40	11.4	65	17.9	43	11.8	48	13.2	

Test applied – Chi-square test; *statistically significant



Graph 3: Distribution of study subjects (smokers) according to use of smoking forms of tobacco

Table 2: Distribution of study subjects (consuming alcohol) according to type of alcoholic beverage

Alcoholic beverage	*Number and percentage of subjects*
Beer	28 (15.8)
Arrack	66 (37.2)
Hard liquor	83 (46.8)
Total	177 (48.8)

Table 3: Distribution of study subjects (tobacco chewers) according to tobacco products used for chewing

Tobacco product	*Number and percentage of subjects*
Betel quid and tobacco	27 (23.2)
Gutka	67 (57.7)
Khaini	22 (18.9)
Total	116 (32.4)

and 177 (48.8%) consumed alcohol. Among the subjects, 40 (11.4%) had all the three habits (smoking, chewing, and alcohol consumption); 65 (17.9%) participants had the habit of smoking and chewing, 43 (11.8%) had the habit of smoking and consuming alcohol, and 48 (13.2%) had the habit of chewing and consuming alcohol. There is a statistically significant association between various age groups and habits considered. Among the subjects with the smoking habit, 55 (62.5%) used cigarettes and 33 (37.5%) smoked beedis, as shown in Graph 3.

Table 2 shows the subjects consuming alcohol, 83 (46.8%) consumed hard liquor, 66 (37.2%) consumed arrack, and 28 (15.8%) consumed beer. Table 3 shows the tobacco chewing habit, and the products used for chewing are gutka (67; 57.7%), betel quid (27; 23.2%), and tobacco and Khaini (22; 18.9%).

Table 4 reveals that the number and percentage of subjects with healthy oral mucosa were 308 (85.8%), subjects with leukoplakia were 5 (1.3%), ulceration were 18 (4.9%), candidiasis were 5 (1.3%), abscess were 5 (1.3%), smoker's palate were 15 (4.1%), betel chewers mucosa were 6 (1.6%). Leukoplakia was found on the buccal mucosa, ulcerations were found on the lips, buccal mucosa and smoker's palate were found predominantly on the palate, and betel chewers' mucosa and candidiasis on the buccal mucosa, lips, and sulci. There is no statistically significant association between various age groups and different oral mucosal lesions.

DISCUSSION

Many surveys have been undertaken to assess the oral health status of the various population across the globe, but there is a lacunae in the literature on surveys among fisherfolk communities. This study aimed to assess the oral habits and prevalence of oral mucosal lesions among 362 subjects (266 males and 96 females). Comparisons of this study with other studies are difficult due to a shortage of the studies reported in the similar population. However, an attempt has been made to compare with similar studies conducted in other population groups.

The prevalence of smoking among the participants is found to be 24.3%, which is similar to the results of the survey conducted by the Dental Council of India (23–24%).[6] Nevertheless, this finding is in line with the findings reported by Thankappan and Thresia[7] (28% of general population).[4]

Table 4: Age-wise distribution of oral mucosal lesions

	Age groups (years)								
	15–24		*25–34*		*35–44*		*45–54*		
Oral mucosal lesion	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*p-value*
No abnormal condition	72	82.7	107	88.4	78	86.6	51	79.6	0.21
Leukoplakia	1	1.1	0	0	2	2.2	2	3.1	
Ulceration	3	3.4	9	7.4	3	3.3	3	4.6	
Candidiasis	1	1.1	1	0.8	0	0	3	4.6	
Abscess	5	5.7	0	0	0	0	0	0	
Smokers palate (other condition)	5	5.7	4	0	3	3.3	3	4.6	
Betel chewer's mucosa (other condition)	0	0	0	0	4	4.4	2	3.1	
Total	87	24.3	121	33.4	90	24.8	64	17.6	

The overall prevalence of smoking, alcohol consumption, and gutka chewing was found to be 24.3, 48.85, and 32.4% respectively. This is less than the corresponding values of 89.4, 85.4 and 19.2% reported by Saravanan et al[8] and 88.1% reported by Chandroth et al[9] and higher when compared with the studies done by Aapaliya et al[10] (25.1, 14.5, 14.2% respectively). Smokeless tobacco (32.4%) was the most prevalent habit followed by smoking tobacco (24.3%). The prevalence of smoking (35.6%) and chewing (41.3%) is higher among the younger age group (15–24 years), which is in line with the study conducted by Saraswathi et al[11] in rural Tamil Nadu. Gutka is the most common tobacco product used to chew, which is in line with that reported by Saravanan et al[12] among Kerala fishermen. The present study demonstrated that the prevalence of tobacco usage was more in younger age groups. Townsend et al[13] also depicted the same pattern and related this finding to the fact that youth generally have comparatively lesser incomes, with a good proportion of it available for discretionary spending so that changes in income are more likely to affect their tobacco usage.

The present study demonstrated a statistically significant association between age and prevalence of tobacco usage. This finding is in line with the work done by Asawa et al[3] and Aslesh et al.[14]

Among the habits studied, alcoholism was the most predominant habit (48.8%). This finding matches with the results reported by Rane et al[15] (45.6%) and Bhondve et al[16] (63.4%), and surprisingly it is more prevalent among the older age groups, whereas tobacco usage was common in the younger age groups. Fisherfolk use various tobacco products to get rid of seasickness and to stay awake during the night while working at sea and have the habit of consuming alcohol after a day's hard work, while the fish vendors, especially ladies, chew tobacco to enable them to withstand the smell of fish for hours together. Mahe, like most Union Territories in India, has low taxes on liquor. This could probably explain the high alcohol consumption among the fishermen population.

According to the present study, the prevalence of oral mucosal lesions was 14.9%. This was low in relation to the prevalence rates in studies by Saravanan et al,[12] Cadugo et al,[17] and Reddy et al,[18] where it is reported to be 25.1, 61, and 44.1% respectively. Buccal mucosa was found to be the most common site for occurrence of leukoplakia, ulcerations, and abscesses. This is consistent with the study conducted by the Dental Council of India. The limitation of the study is that as we used cross-sectional data, it is not possible to comment on causality. There may be confounding factors that were not captured and better explained. It would be important for further research to explore the relationship of these factors to the outcome.

CONCLUSION

The overall prevalence of smoking, alcohol consumption, and gutka chewing was found to be 24.3, 48.8, and 32.4% respectively. Smokeless tobacco (32.4%) was the most prevalent habit followed by smoking tobacco (24.3%).The prevalence of oral mucosal lesions was 14.9%. It is important for young people from this community to be selected and trained to deliver dental health education. Oral care should be made available at their doorsteps by coordinating periodic oral health care programs. Fishermen population should be educated about the harmful effects of alcoholism, smoking, and chewing habits by public media because of their isolation from the shore. This epidemiological survey has provided baseline information to underpin the implementation of oral health programs. Taking into account the absence of basic oral health care regime, a special program should be designed to improve awareness and the oral conditions of this community.

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