ASSESSMENT OF ORAL HEALTH CARE NEEDS AMONG FISHERMEN LIVING IN NORTH CHENNAI, INDIA – A CROSS-SECTIONAL STUDY

ABSTRACT:

Introduction:

Studies conducted among fishermen show that there was a high prevalence rate in Oral mucosal lesions. However, data on oral health care needs among fishermen is scarce. Hence, this was undertaken to obtain data that can be used to plan programmes for the prevention and treatment of such oral mucosal lesions in the fishermen.

Materials and Methods:

A study was carried out among 71 fishermen after obtaining clearance from the institutional ethical committee and concerned authorities. A self-administered questionnaire is distributed among the study group comprising questions relating to personal history and deleterious habits. Clinical examination was carried out using mouth mirror, explorer, and under proper illumination. Oral health examination was done using WHO Basic Oral health Assessment proforma, 2013. Data was collected and analysed statistically using SPSS software.

Results:

Among the 71 fishermen, 56(78.9%) were males, and 15 (21.1 %) were females. In the study population, 44(62%) were tobacco chewers, 39(54.9%) were snuff users, 24(33.8%) were alcohol consumers, and 19(26.8%) were smokers. Smokeless tobacco (41.5%) was the most common deleterious habit, after which alcohol consumption (33.8%) and smoking (26.8%). The prevalence of oral mucosal lesions was 20.8%. It was found that a statistically significant association existed between deleterious habits and leukoplakia.

Conclusion:

According to our study, the prevalence of oral mucosal lesions was 20.8% among the fishermen who had a clear association with deleterious habits such as tobacco chewing, smoking, alcohol consumption, and snuff.

KEYWORDS: Fisherman community, tobacco habit, oral hygiene, oral mucosal lesions

INTRODUCTION:

Human health has been recognized as an important factor contributing to social sustainability. Every single disease has its natural history. The disease develops due to a complex interaction between the man, the agent, and the environment. The health of workers usually is influenced by conditions occurring at their workplaces. For instance where one such occupation in which environment plays a significant role is fishing. In fishing, the workers have an irregular diet pattern, stress, alcoholism, tobacco, and pernicious habits. As a result, they are exposed to severe health risks both onshore and offshore (Saravanan N, Reddy CV, Veeresh DJ., 2011). Many of these risks and associated health concerns have extended to their families and communities.

This study identifies the oral health issue in fishing communities in Chennai, Tamil Nadu. Chennai lies along the Coromandel Coast off the Bay of Bengal, and the east coastal line measures about 19km, which harbors the fishermen population. They belong to low socioeconomic strata. The prolonged working hours and vigilant stay during the night while

working in the sea leads to improper diet, lack of nutrition, stress, and increased usage of tobacco and alcohol contributes to ill health and oral lesions.

Our study helps to provide an insight knowledge about their the oral hygiene status, their habits, and associated oral mucosal lesions among fishermen, thereby the oral health can be assessed, which could be used efficiently to provide a proper oral health care need by preventing and treating such lesions and reduce their morbidity.

MATERIALS AND METHODS:

A descriptive cross-sectional survey was performed on 71 fishermen to assess the prevalence of oral mucosal lesions among the fisherman community of Chennai, Tamil Nadu, India. Ethical clearance was obtained from the institutional review board, and official permission was obtained from the Chairman of the Fishermen folk community to conduct the study. For the subjects willing to participate in the study, written consent was obtained. For the subjects, who were illiterate, a detailed explanation was done, and their consent was recorded by taking their thumb impression.

Inclusion and exclusion criteria:

Inclusion criteria: Fisherman willing to participate and above 18 years of age.

Exclusion criteria: Fishermen who were previously diagnosed with severe illness.

Proforma details and clinical examination:

A self-administered questionnaire was distributed among the literate study group comprising questions relating to personal history and deleterious habits. For the illiterate group, the examiner explained each question from the questionnaire and recorded the history. The oral

health examination is done using WHO Basic Oral health Assessment proforma 2013, which includes information about the study subjects, their deleterious habits, oral hygiene status, brushing habits, Oral Hygiene Index, Community Periodontal Index, and presence, location, and extent of oral mucosal lesions. Clinical examination was carried out using mouth mirror, explorer, and under proper illumination under aseptic conditions. This study was performed at the fishermen's locality.

Statistical analysis:

The collected data were statistically analysed using SPSS software version 20. The confidence level and p-value were 95% and 0.05, respectively**.**

RESULTS:

Among the study group, 56(78.9%) were males, and 15 (21.1 %) were female (chart 1). The mean age of the study group was 38.8 ± 9.2 years. Sixty-five (91.5%) of the study group were found to be literate, and 6 (8.5%) were found to be illiterate, and 36.6% of the people completed their secondary level of education. Most of the study group seems to be educated, and few people finished college, 1.4% (Graph 1)

In our study, the majority of the people brushed their teeth once a day, 70 (98.6%) and only 1 (1.4%) brushed once a week. All of them used cleaning aids and toothpaste for cleaning their teeth. (Table 1)

The oral hygiene status of teeth and gums was assessed as average in 28(39.4%) cases and poor in 43(60.6%) cases. (Table 2)

In our study, 44(62%) were tobacco chewers, 39(54.9%) used snuff, 24(33.8%) consumed alcohol, and 19(26.8%) were smokers (Table 3). Twelve (16.9%) participants had

the habit of tobacco chewing occasionally, and 32(45.1%) used it often, 3(4.2%) participants used snuff sometimes and 36(50.7%) participants used often, 9(12.7%) participants occasionally smoked while 10(14.1%) participants smoked often and 15(21.1%) participants consumed alcohol occasionally, and 9(12.7%) participants consumed often. (Table 4)

In our study, 64 (90.9%) of the study group had dental caries, 97.2% of gingival disease, and periodontal health of the participants.

Graph 2 depicts the prevalence of oral mucosal lesions in the study group. Leukoplakia 48(67.6%) is the most prevalent lesion. Other oral lesions found where ulceration 17(23.9%), oral submucous fibrosis 10(14.1%), Oral lichen planus 7(9.9%), abscess 4(5.6%), and candidiasis 3(4.2%)

Graph 3 reveals buccal mucosa (76.1%) to be the most affected oral site followed by lips (39.4%), commissure (19.7%), tongue (9.9%), palate (9.9%), alveolar ridge (8.5%), sulci (8.5%), floor of the mouth (8.5%) and vermillion border (4.2%).

Table 5 reveals that a statistically significant association existed between the habits (smoking- 0.05, tobacco chewing-0.004, and snuff-0.001) and Leukoplakia.

DISCUSSION:

Seventy-one fishermen were analysed and investigated for the oral mucosal findings who were residents of the Chennai coastal region. There was a wide discrepancy in the gender distribution of our study (males - 78.9%, females- 21.1%). Much research found in accordance with our study shows a comparison between the general and fishermen

populations. But our study comprises only the fishermen population where a correlation is elicited between the deleterious habits and the oral mucosal lesion.

Among the participants, smoking was prevalent in 23.8% of individuals, which is similar to the study conducted in MAHE, South India, with 24.3% (KSA Anzil et al., 2016). In our study, we found that the habits of smoking, alcohol consumption, tobacco chewing, and snuff were 26.8%, 33.8%, 62%, 54.9%, respectively. Our study is in accordance with the results of MAHE, South India study (KSA Anzil et al., 2016), where the exact figures were found to be 24.3%, 48.85%, and 32.4%. According to another study, smoking, alcohol, and tobacco chewing was 15.02%, 6.99%, and 8.78%, which is lower compared to our study (Saraswathi TR et al., 2006). A significant statistical association was demonstrated between age and tobacco usage, similar to other studies (Asawa K et al., 2014) & (Aslesh OP et al., 2015).

We also found that tobacco chewing was the most predominant habit seen in the fishermen population (62%) (Anzil KSA et al., 2016). Due to their low educational background, less awareness of tobacco hazards, laborious hours of working, and fighting seasickness with the foul-smelling environment, leading to more misuse of tobacco (KSA Anzil et al., 2016).

The oral habits of the study groups revealed that about 98.6% used chew sticks for brushing, followed by fingers and toothpaste. While comparing with other studies, about 42.9% used chew sticks, and toothbrushes and toothpaste were used by about 29.9% (Chandrothet SV et al., 2014).

Oral mucosa was screened for pathology, where we found out the prevalence of oral mucosal lesions was 67.6%. This was relatively high compared with the other studies with 14.9% and 30.3%, respectively (Anzil KSA et al.,2016 & Chandroth SV et al.,2014). The common mucosal lesions identified were leukoplakia, ulcerations, and abscesses. Buccal mucosa was

the most common site of occurrence for these lesions (76.1%), followed by lips (39.4%), commissures (19.7%), tongue (9.9%), palate (9.9%), alveolar ridge (8.5%), sulci (8.5%), the floor of the mouth (8.5%) and vermillion border (4.2%). Leukoplakia was found to be the most commonly found lesion (67.6%), followed by lichen planus (9.9%), ulceration (23.9%), candidiasis (4.2%), abscesses (5.6%), and submucous fibrosis (14.1%). Leukoplakia and OSMF are attributed to the predisposing habits among the fishermen. Our study also found out that fishermen of combined habits like tobacco and alcohol had a higher incidence of oral lesions. The limitation of this study is that the diagnosis is only based on clinical examination, and this study should be performed for a more extensive, nationwide survey for oral lesions among the fisherman community.

CONCLUSION:

The present study reveals that the oral health status of the fishermen is poor. This includes low socioeconomic status, illiteracy, and lack of awareness. Moreover, these fishermen spend their quality time away from the shore on the lap of the ocean. Hence they should be widely educated against the deleterious effects of tobacco by implementation of oral health programs by oral health care providers.

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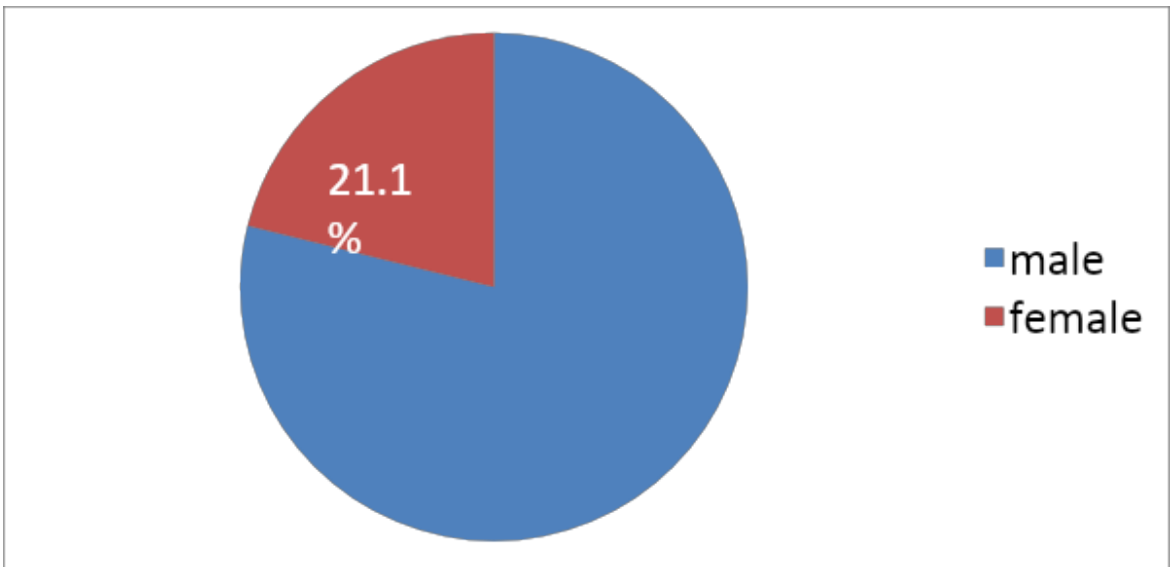
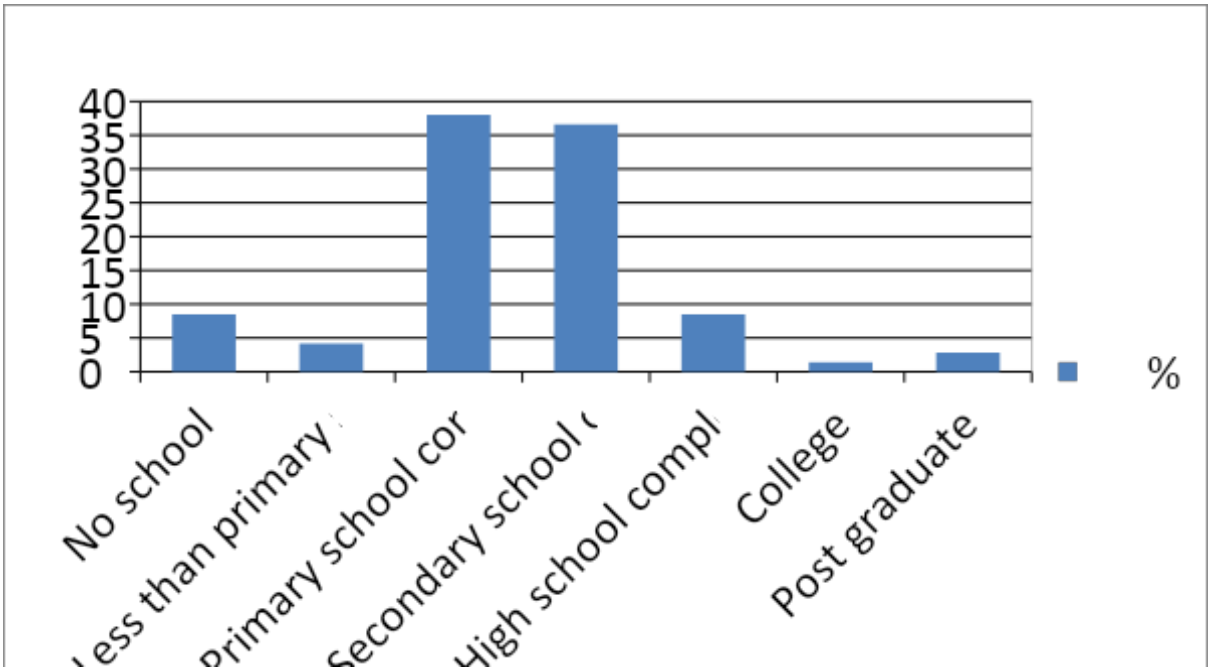
CHART

CHART – 1: GENDER DISTRIBUTION

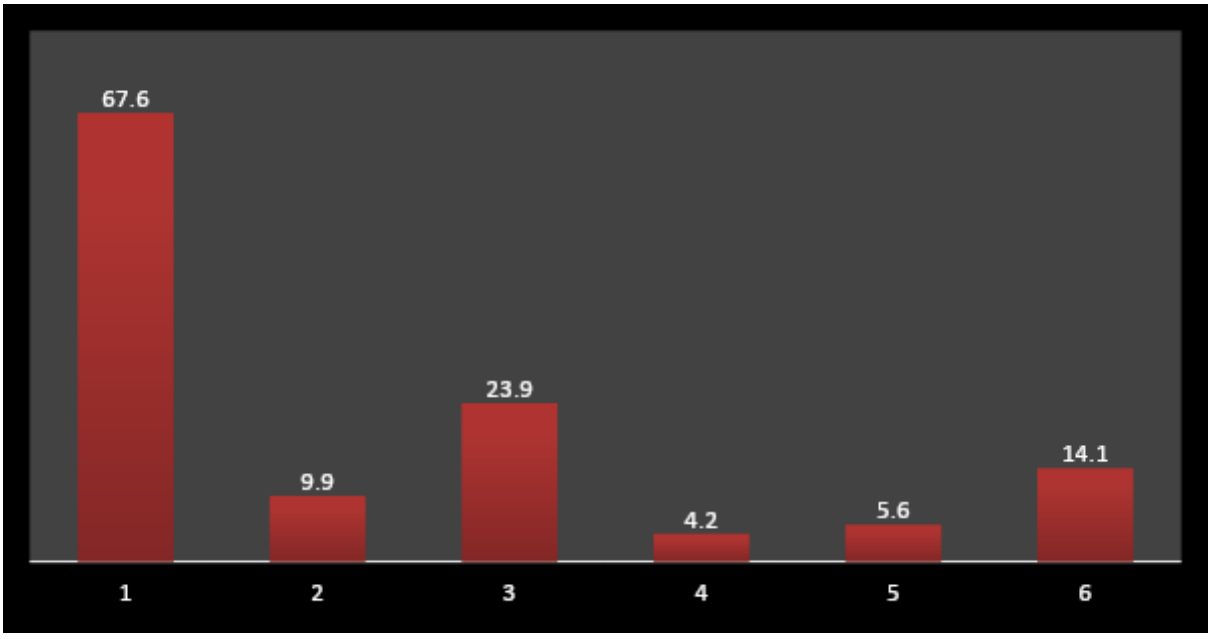


GRAPHS

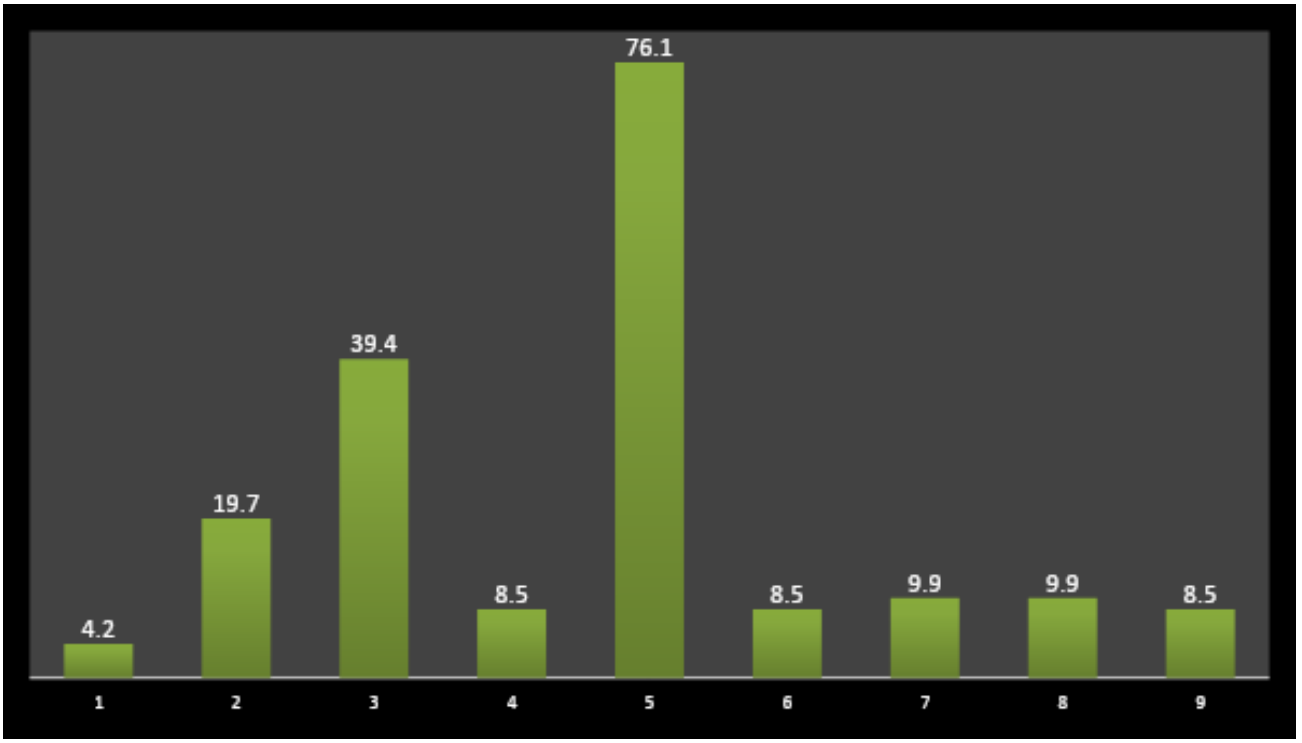
Graph 1: Educational qualification of study subjects in percentage



Graph 2: Prevalence of Oral Mucosal Lesion



Graph 3: Prevalence of oral mucosal lesion based on site



TABLES

Table 1: Status of brushing habits and cleaning aids

		Frequency	**Percent**
BRUSHING HABITS	once a week	1	1.4
	once a day	70	98.6
	Total	71	100
cleaning aids	yes	71	100
tooth paste	yes	71	100

Table 2: Oral Hygiene Status distribution

		Frequency	**Percent**
OHS-TEETH	average	28	39.4
	poor	43	60.6
	Total	71	100
OHS-GUMS	average	28	39.4
	poor	43	60.6
	Total	71	100

Table 3: Status of oral habits among study subjects

HABIT	FREQUENCY	PERCENTAGE
Tobacco chewing	44	62
Snuff	39	54.9
Alcohol consumption	24	33.8
Smokers	19	26.8

Table 4: Distribution Of Study Subjects According To exposure to Habits

Habit	**Occasionally**		**Often**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Tobacco Chewing	12	16.9	32	45.1
Snuff	3	4.2	36	50.7
Alcohol Consumption	15	21.1	9	12.7
Tobacco smoking (Smokers)	9	12.7	10	14.1

Table 5: Association between habits and leukoplakia

Habits		Leukoplakia		Total	Chi Square Value	p Value
		Absent	Present			
CIGARETTE	**Never**	22	30	52	10.04	**0.05***
	Seldom	1	5	6		
	Once a week	0	3	3		
	Several times a week	0	3	3		
	everyday	0	7	7		
	total	23	48	71		
TOBACCO CHEWING	**Never**	12	15	27	17.38	**0.004***
	Seldom	6	1	7		
	Several times a month	0	2	2		
	Once a week	0	3	3		
	Several times a week	1	6	7		
	Everyday	4	21	25		
	Total	23	48	71		
SNUFF	**Never**	18	14	32	15.7	**0.001****
	Seldom	1	2	3		
	Several times a week	1	8	9		

	Everyday	3	24	27		
	Total	23	48	71		