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Original Research Article

Harmful life style practices and associated factors among fishermen in Cuddalore district, Tamil Nadu: a cross sectional study

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ABSTRACT

Background: Tobacco and alcohol consumption are considered as major public health problems in the world. The strenuous nature of the job, long and irregular working hours, long stay in the sea while fishing may lead to an increased rate of tobacco and alcohol consumption in fishermen. Aim of the study was to find out the prevalence of harmful lifestyle practices among fishermen, and also to find the association between harmful lifestyle practices and selected variables among the fishermen.
Methods: A descriptive cross-sectional study was carried out among 275 fishermen in Cuddalore district, Tamil Nadu during October 2021 to March 2022. A Pre tested, semi-structured proforma was used to collect data about the basic socio-demographic variables, detailed occupational history, health status of fishermen and tobacco consumption and alcohol intake. Data were entered in Microsoft excel and analysis was done using statistical package for social sciences (SPSS) version 17.
Results: The proportion of cigarette smoking, tobacco chewing and alcohol consumption was 24.7%, 15.3% and 19.6% respectively. Variables such as boat ownership, diabetes, hypertension, sleep duration, income were found to be statistically significant.
Conclusions: Harmful lifestyle practices among fishermen found to be high among the fishermen with poor health profile, less sleep and low income per month.

Keywords: Cigarette smoking, Tobacco chewing, Alcohol, Fishermen, Cuddalore

INTRODUCTION

Tobacco and alcohol consumption are considered as significant public health challenges. The consumption of these two substances in India remains relatively high.[1] Tobacco use continues to be the leading global cause of preventable death. Tobacco kills nearly 6 million people and causes hundreds of billions of dollars of economic damage worldwide each year.[2] Global adult tobacco survey (GATS) India revealed that more than one-third (35%) of adults in India use tobacco in some form or the other.[3] The harmful use of alcohol is one of the leading risk factors for population health worldwide and has a direct impact on many health-related targets.[4] The Lancet found that alcohol was the third main risk factor for death and reasonable for 5.5% of disability-adjusted life years lost globally, i.e., 136 million years of life lost due to dying early or living with an alcohol-related disability.[5]

Fishing is not simply a job but it is a way of life with its own traditions and values.[6] Many studies suggested, tobacco and alcohol consumption are higher in fishermen community. Fishermen community possesses unique characteristics of a folk society, since major portion of the life of fishermen is spent at sea with bizarre sleep and eating pattern difficult physical conditions, dislocation,

isolation and prolonged working hours which could be the predisposing factors for smoking and alcohol consumption among fishermen community.[7]

In fishing occupation, fishers were exposed to health risk, both onshore and offshore. Many of these risks and associated health concerns extend to fishing families and wider communities also. Sociodemographic factors have known to play a crucial role in the initiation and continuation of drinking during early life among Fishermen.[8]

Fishing occupation holds inherent freedom and autonomy to decide, according to their experience in fishing, climate, need for money etc. As informal workers, they have autonomy to make decisions about their work, and responsible for providing their own tools and for all states of production which increase the chances of use of tobacco and alcohol at work place.[9]

The profession itself confers risk of accidents to workers, risk of injury, and others which may be potentiated by alcohol and tobacco consumption. Alcohol adversely affects multiple organ system of the body manifested as various health problems. A community-based study on coastal area of south Kerala showed that all organ systems were affected among the fisher men who consume alcohol as reported by the participants.[10]

The health risk involved in their work activities that were known to compromise the quality of life. The high morbidity and mortality associated with fishing activity, which could cause significant drain their income. The resultant poverty reduces health seeking behaviour of the community and causing more disease burden in the community.

Hence the identification of harmful practices and associated factors were required to prevent the morbidity and mortality among fishermen. Since limited studies were done among fishermen community, this study was planned to find out harmful life style practices and associated variables among fishermen community in Cuddalore district.

METHODS

Study design and area

A descriptive cross-sectional study was conducted among fishermen in Parangipettai, Cuddalore district in Annamalai University, Chidambaram. Tamil Nadu. for a period of 6 months (October 2021 to March 2022).

Sample size

This study is a part of dissertation work. The required sample size for the dissertation work was 266. However, 275 subjects were selected following Area cluster sampling method.

Inclusion criteria

Fishermen >18 years who venture into the sea for fishing were included.

Exclusion criteria

Fishermen >18 years, who didn't give consent for the study were excluded.

Study procedure

The purpose of the study, was explained to the society leaders and individuals in the local language and their cooperation was sought. Written informed consent of the individual was obtained before initiating the data collection. The information pertaining to basic socio-demographic variables, detailed occupational history, health status of fishermen, tobacco consumption and alcohol intake were collected using pre-tested semi-structured proforma. This study was approved by institutional ethical committee of RMMCH, Annamalai University, Chidambaram. Tamil Nadu.

Statistical analysis

Data was entered in Microsoft excel and statistical analysis was done using statistical package for social sciences (SPSS) version 17. Chi-square test and stepwise logistic regression with backward LR tests were done to find the association between harmful lifestyle practices and selected variables among the fishermen.

RESULTS

In this study of 275 fishermen, 46.4% belonged to 31-45 years age group, 90.2% were Hindus, 25.1% were illiterate, 23.3% attained up to secondary level of education, 70.2% were married, 64.7% were lower middle class, majority 77.1% were lived in pucca house (Table 1).

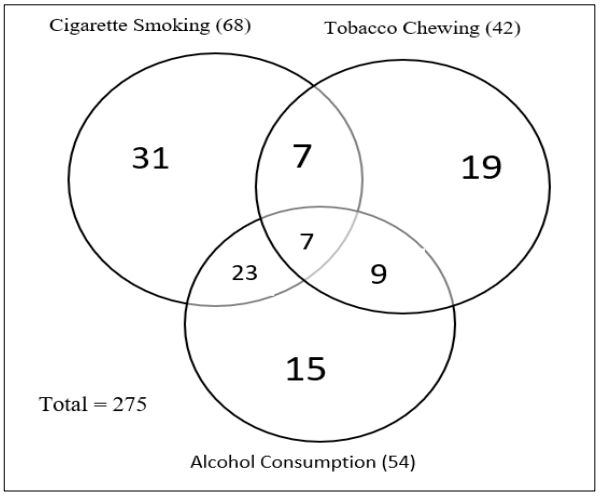

Figure 1: Proportion of harmful life style practices among fishermen (n=275).

Table 1: Socio-demographic profile of fishermen (n=275).

Variables and category	Frequency (%)
Age (in years)	
18-30	74 (26.9)
31-45	122 (46.4)
>45	79 (28.7)
Religion	
Hindu	248 (90.2)
Others	27 (9.8)
Marital status	
Married	193 (70.2)
Unmarried	57 (20.7)
*Others	25 (9.1)
Educational qualification	
Illiterate	69 (25.1)
Primary	55 (20.0)
Secondary	64 (23.3)
HSC and others#	64 (23.3)
Degree and above	23 (8.4)
Per capita income/month	
2367-3943	28 (10.2)
1183-2366	178 (64.7)
<1183	69 (25.1)
House type	
Kaccha	23 (8.4)
Semi pucca	40 (14.5)
Pucca	212 (77.1)

*Others– separated/divorcee/widower; #others– ITI/diploma courses.

In this current study, among 275 fishermen, 111 (40.36%) fishermen consumed either tobacco or alcohol, 68 were cigarette smokers, 42 were tobacco chewers, 54 were alcohol consumers, 14 were both smoker and tobacco chewers, 30 were both smoker and alcohol consumer, 16 were both tobacco chewer and alcohol consumers, 7 were involved in smoking, tobacco chewing and alcohol consumption (Figure 1).

In the present study it was observed that, proportion of harmful life style practices were higher among fishermen aged more than 45 years (73.4%), those were separated or divorced or widower (60%), low per capita income per month (57.1%), illiterate (72.5%). All these socio demographic variables were statistically significant (p<0.001) with harmful life style practices among fishermen (Table 2).

In this study it was found that, proportion of harmful life style practices were higher among fishermen experienced more than 10 years (59.2%), who work less than a week per month (66.7%), used non-motorized boat (56.8%), own the boat (64.0%), those were not able to contact the family while at the sea (53.5%), those sleep less than 6 hours /day (67.5%). All these occupational related variables were significantly associated with harmful life style practices among fishermen (Table 3).

In this current study it was observed that, proportion of harmful life style practices were higher among those were diabetic (90.2%), hypertensive (74.6%), musculo skeletal disorder (44.2%) visual impairment (74.1%), hearing impairment (60.9%), obese (70.2%). All these health-related variables were significantly associated with harmful life style practices among fishermen (Table 4).

Further on stepwise logistic regression with backward LR, only variables such as diabetes, hypertension, sleep duration, boat ownership and income were found to be statistically significant with tobacco and alcohol consumption among fishermen.

Harmful life style practices were 9.5 times higher among hypertensive (p<0.001) (95% CI, (4.768- 8.938)), 5.5 times higher among diabetic (95% CI, (1.672-18.291), 3.6 times were higher among the boat owners (95% CI, 1.256-10.358)), 5.4 times higher among those sleep less than 6 hours per day (95% CI, 1.440-20.285)) and 2.6 times (95% CI, 1.228-5.813) higher among lower income group (Table 5).

Table 2: Association between harmful life style practices and socio demographic variables.

Variables	Harmful practices present (111)		Harmful practices absent (164)		Chi square test	P value
	Number	%	Number	%		
Age (years)						
18-30	7	9.5	67	90.5	65.57	<0.001
31-45	46	37.7	76	62.3		
>45	58	73.4	21	26.6		
Marital status						
Married	89	46.1	104	53.9	25.33	<0.001
Unmarried	7	12.3	50	87.7		
Others	15	60	10	40		
Income (per capita in Rs.)						
2367-3943	16	57.1	12	42.9	16.62	<0.001
1183-2366	56	31.5	122	68.5		

Continued.

Variables	Harmful practices present (111)		Harmful practices absent (164)		Chi square test	P value
	Number	%	Number	%		
<1183	39	56.5	30	43.5		
Education status						
Illiterate	50	72.5	19	27.5	66.11	<0.001
Primary	32	58.2	23	41.8		
Secondary	14	21.9	50	78.1		
HSC and others	10	15.6	54	84.4		
Degree and above	5	21.7	18	78.3		
Ownership of house						
Own	83	38.2	134	61.8	1.912	0.167
Rental	28	48.3	30	51.7		

Others – separated/ divorcee/ widower.

Table 3: Association between harmful life style practices and occupational variables.

Variables	Harmful practices, number (%)				Chi square test	P value
	Present (111)		Absent (164)			
Nature of work						
Fishing	98	40.3	145	59.7	0.690	0.876
Driver	6	46.2	7	53.8		
Cook	4	44.4	5	55.6		
Mechanic	3	30.0	7	70.0		
Work experience (in years)						
<5	3	5.9	48	94.1	57.41	<0.001
5-10	15	22.4	52	77.6		
>10	93	59.2	64	40.8		
No. of working weeks in a month						
<1	10	66.7	5	33.3	19.60	<0.001
1-2	26	55.3	21	44.7		
2-3	63	41.4	89	58.6		
3-4	12	19.7	49	80.3		
Type of boat						
Motorized	86	37.2	145	62.8	5.892	0.015
Non-motorized	25	56.8	19	43.2		
Ownership of boat						
Owner	16	64.0	9	36.0	6.383	0.012
Labour	95	38.0	155	62.0		
Alternate occupation during ban period						
Agriculture	33	42.3	45	57.7	4.480	0.214
Business	14	29.2	34	70.8		
Others***	19	51.4	18	48.6		
None	45	40.2	67	59.8		
Ability to contact family during stay in sea						
Yes	28	23.3	92	76.7	25.65	<0.001
No	83	53.5	72	46.5		
Sleep duration/day (in hours)						
<6	27	67.5	13	32.5	18.55	<0.001
6-8	77	38.5	123	61.5		
>8	7	20	28	80		

****Others- peeling/processing worker /net mending.

Table 4: Association between harmful life style practices and health status.

Variables	Harmful practices, number (%)				Chi square test	P value
	Present (111)		Absent (164)			
Diabetes						
Yes	37	90.2	4	9.8	49.803	<0.001
No	74	31.6	160	68.4		
Hypertension						
Yes	85	74.6	29	25.4	94.603	<0.001
No	26	16.1	135	83.9		
Musculoskeletal disorder						
Yes	100	44.2	126	55.8	7.949	0.005
No	11	22.4	38	77.6		
Skin disease						
Yes	52	36.6	90	63.4	1.710	0.191
No	59	44.4	74	55.6		
Visual impairment						
Yes	20	74.1	7	25.9	14.134	<0.001
No	91	36.7	157	63.3		
Hearing impairment						
Yes	28	60.9	18	39.1	9.650	0.002
No	83	36.2	146	63.8		
BMI						
Normal	4	9.5	38	90.5	42.567	<0.001
Over weight	9	16.7	45	83.3		
Obese 1	39	41.1	56	58.9		
Obese 2	59	70.2	25	29.8		

Table 5: Stepwise logistic regression with backward LR.

Variables	Regression coefficient	Significant value	Adjusted odds ratio	95% CI of AOR	
				Lower	Upper
Per capita income/month (in Rs)					
2367-3943	-				
1183-2366	0.672	0.247	1.956	0.625	6.134
<1183	0.982	0.013	2.666	1.228	5.813
Sleep duration (in hours)					
<6	1.687	0.012	5.405	1.440	20.285
6-8	0.983	0.072	2.671	0.916	7.794
>8	-				
Boat ownership					
No	-				
Yes	1.283	0.017	3.606	1.256	10.358
Diabetes					
No	-				
Yes	1.710	0.005	5.530	1.672	18.291
Hypertension					
No	-				
Yes	2.252	<0.001	9.502	4.768	18.938

DISCUSSION

In this study it was found that 40.36% fishermen consumed either alcohol or cigarette or smokeless tobacco or both, 24.72% participants were cigarette smokers, 15.27% were tobacco chewers, 19.6% were alcohol consumers. Similarly, a study done in South India among fishermen community showed that, prevalence of consumption of tobacco, alcohol were 25.1% and 21.9% respectively.[11]

In the present study, significant association found between diabetes, hypertension, boat ownership, sleep duration, income and harmful life style practices among fishermen.

In this current study, it was found that harmful life style practices were 9.5 times higher among hypertensive and 5.5 times higher among diabetic. Many cross-sectional studies among fishermen community showed the significant association between diabetic, hypertension and cigarette smoking, tobacco chewing, alcohol consumption.[7,12-14]

In the present study proportion of harmful life style practices were 5.4 times higher among those had inadequate sleep (<6 hour**).** This study findings were similar to the findings were shown in A systematic review of the literature on night work and alcohol consumption by Richter et al.[15] A study on correlation between shift-work-related sleep problems and heavy drinking in Japanese male factory workers showed that tobacco consumption was higher among those workers on shift basis.[16]

In this study, harmful life style practices were 2.6 times higher among lower income group. This study findings were similar to the study of use of tobacco and alcoholic beverages in a low-income coastal community in south India.[17] Similarly a study on tobacco and alcohol use and dependence among workers in a fish processing factory in coastal Karnataka showed that alcohol and tobacco consumption were high among low income group.[1] This study findings were similar to the study of socioeconomic status and smokeless tobacco consumption in fishermen community of a coastal area of Karachi.[18] In contrast to this study, a study on alcohol, harmful use and dependence: assessment using the WHO alcohol use disorder identification test tool in a south Indian fishermen community showed that there is no significant association between socio economic class and cigarette smoking, tobacco chewing, alcohol consumption among fishermen.

In our study it was noted that higher proportion of tobacco and alcohol consumption among boat owners. It's probably due to the high affordability for tobacco and alcohol among boat owners.

Limitations

The information on alcohol and tobacco intake was self-reported one. Hence, there is a possibility of social desirability bias. The data on health status of fishermen were self-reported and there are chances of reporting bias.

CONCLUSION

Harmful lifestyle practices among fishermen found to be high, among the fishermen with poor health profile, less sleep and low income.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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