Alcohol Consumption and Related Health Problems among Fishermen: A Community Based Study in Southern Costal Areas of Kerala

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Abstract:
Background: Alcoholism and alcohol related morbidities are frequent in coastal areas among fishermen. Fishermen have prolonged hours of continuous work, which are found to be correlated with high cigarette and alcohol consumption. WHO highlights the necessity to identify hazardous and harmful pattern of alcohol use among individuals using standard measures, to facilitate appropriate interventions to reduce the risk of alcohol related problems especially health problems. AUDIT is a simple and valid method to screen individuals who are succumbed to alcoholism and are at risk for specific consequences of harmful drinking.
Materials and Methods: Quantitative descriptive design was used to analyze various problems encountered by the alcoholic fishermen in south Kerala. Using Purposive sampling technique study included 60 fishermen. The Alcohol Use Disorders Identification Test (AUDIT) developed by WHO and a structured questionnaire were the tools to assess the hazardous and harmful pattern of alcoholism and to identify the alcohol related health problems.
Results:.
Majority of the participants (88%) had had the habit of alcohol consumption, 16% had smoking 23% had betel chewing and 28% had Pan chewing. 31 among them(58%)of the samples were using alcohol > 6 years.25% participants were included in zone1 with low risk drinking , 19 % included in zone 2 with medium level risk, 16 % included in zone 3 with moderate hazardous level and 40% included in zone 4 with harmful drinking. Among those with alcoholism, 66% of them experienced health problems related to digestive system disorders, 58% Musculoskeletal disorders,49% endocrine disorders, 45% Integumentary system disorders, 32% respiratory system disorders,32% circulatory system disorders , 26% nervous system disorders ,24% renal system disorders and 15% sensory disorders. There was statistically significant association between age, education and income and the pattern of alcohol consumption. (P<0.01, <0.05 &<0.05)
Conclusion:Despite dangerous nature of fishing occupation, very little research have been conducted reported on Health status of fishermen's health and safety even in India. The research on this group of population is limited. Therefore the present study was executed to assess risk of alcohol related health problems and its consequences
Key Words :Alcoholism, Audit, Heath problems

I. Introduction

Kerala, situated between the Arabian Sea to the west and Western Ghats to the East, having coastal area of 580km length, and fishing is one of the main occupation of a large population residing in the coastal areas of Kerala. Faulty health behaviors like alcoholism, smoking and drug addiction are prevalent among people of coastal villages especially among men.[1]Alcoholism is a social evil among fishermen making them susceptible to personal and social problems in addition to harmful effects on health. Alcohol consumption can result in various health problems though it may most often become apparent at a long run. Alcoholism is a risk factor for various diseases, disability and death throughout the world .[2]It is a major cause of cancer of the mouth, esophagus, and larynx. Liver cirrhosis and pancreatitis and other mental disorders such as depression.[3]

WHO invigorate to identify persons with hazardous and harmful patterns of alcohol consumption which provides a framework for intervention to help hazardous and harmful drinkers reduce or cease alcohol consumption and thereby avoid the harmful consequences of their drinking .[4]The aim of this study was to identify persons with hazardous and harmful patterns of alcohol consumption and related health problems among fishermen in the coastal areas.

A community based cross-sectional study was carried out among fishermen in a coastal village of Puducherry, India. House to hose survey was conducted, fishermen aged above 18 years and involved in catching

fish at least once in last three months, were included. Data on age, marital status, education, monthly income, duration in fishing occupation, owning a boat or wager, frequency of fishing per month/week, number of hours spent in sea, alcohol use in past one year, age at initiation, type of alcohol drink and presence of alcohol users in family. In total, 304 participants were interviewed. Mean (SD) age of the participants was 41 (11) and 82% were involved in fishing for more than 10 years. Of 304 participants, 241 (79%) reported alcohol use in past one year. Of 241 participants who used alcohol, 89% reported alcohol consumption during fishing activity. In multivariate analysis, alcohol use in other family members was independently associated with alcohol use (aRR 21.4; 95% CI 6.8-67.4). Very high prevalence of alcohol use is seen among fishermen. Of those who consume alcohol, nine out of ten use during fishing activities[5].

Alcoholism is highly and widely accepted in general population of India. According to the National Family Health Survey revealed that about 32% were current users of alcohol in Indiaand there has been a steady increase in the production of alcohol in the country, with the production doubling from 887.2 million liters in 1992-93 to 1,654 million liters in 1999-2000 and was expected to treble to 2300 million liters by 2007-08.[3]A survey report revealed that prevalence rate of alcohol use inKarnatakaamong women was 5.8% and 33.2% for males [4]

From the above studies the researcher found that alcohol prevalence in the coastal areas is growing in alarming rate, which accounts one of the major causes of mortality and morbidity and also noticed a significant lowering of age at initiation of drinking. So it is high time to carry out effective intervention to create awareness among the fisherman about alcoholism and its ill effects. Thus fisherman can be prevented from alcohol consumption with timely and proper motivation.

II. Material And Methods

This descriptive study was carried out among fisher men in the coastal regions of Trivandrum district, Kerala, in the month of August 2020. Study included 60 fishermen who were residing in the coastal areas of Trivandrum, Kerala and are involved in the occupation of fishing.

Study Design: Descriptive survey design

Study Location: This study was conducted in selected coastal areas in Trivandrum (Shanghumugam beach, Puthenthope, Perumathura, Mariyanad) .

Study Duration:1st August to 15 August.2020

Sample size: 60 fishermen

Sample size calculation: The sample size was estimated on the basis of descriptive surveydesign. The target population was selectedusing purposive sampling technique

Subjects & selection method: Samples of the study were fisher men who were residents of Trivandrum Dist . Sampling adopted purposive sampling technique where in samples who were available for data collection and who were willing to participate in the study.

Inclusion criteria:

1. Fishermen who are residing in selected coastal areas in Trivandrum.
2. Fishermen willing to participate in this study.
3. Fishermen available during data collection period.

Exclusion criteria:

1. Fishermen<35 years of age
2. Fishermen who are not willing to participate in the study.

Procedure methodology

The data required for the study was collected from 1st August to 15 August 2020. The study was conducted in selected coastal areas in Trivandrum (Shanghumugam beach, puthenthope, perumathura, mariyanad), written permission was obtained from Panchayatpresident and councillor of selected coastal villages.The investigator enrolled 60 samples through convenient sampling technique by making field visit. The purpose of the study was explained to them and willingness was obtained. They were also assured of the confidentiality of their response.

Data Collection was done using the standard tool 'AUDIT' developed by WHO to ascertain hazardous and harmful pattern of alcohol consumption and a structured questionnaire to assess alcohol related health problems in the samples. The Alcohol Use disorder Identification test consisted of 10 questions which categorizes the participants to different zones that denote the severity of alcoholic consumption. The score of 1-7 indicate hazardous alcohol use; an AUDIT score of 8-15 represents dependence symptoms with a medium level of alcohol problems and a score of 16 and above represents harmful alcohol use with high level of alcohol problems[4]. Structured questionnaire consisted of questions related to health problems based on various systems of the body. Data collection was done by oral interview and duration was about 30 minutes for each samples.
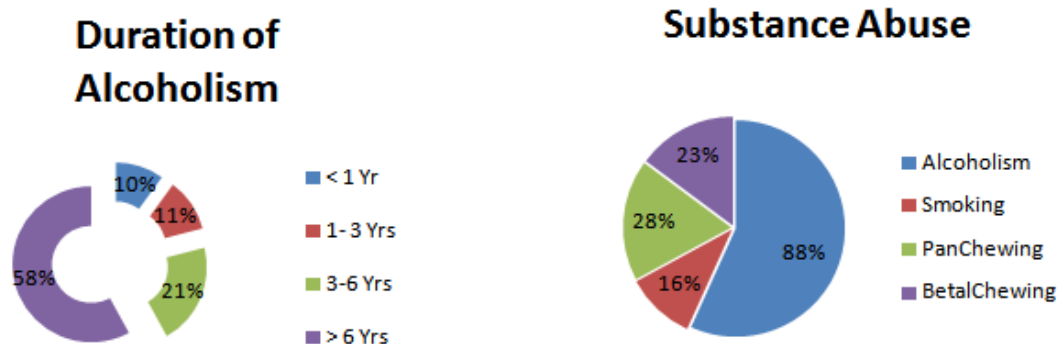
Statistical analysis
SPSS was usedtocalculatethe results.Bothdescriptive and inferentialstatisticalmethods were usedinthestudy

III. Result
Section A

Demographic variables of fisherman

Out of 30 samples, 43% participants were <45 years, 18(30%) were between 45-55-yrs,12(20%) were between 56- 65 years and 4 (7%) were > 66 years of age . 35% were illiterate, 15 % were with primary Education 37 % with higher secondary education and 13 % participants were graduates .Majority of the participants (88%) had   habit of alcoholism,16% had smoking 23% had betel chewing and 28% had Pan chewing

Participants based on Substance Abuse and Alcoholism

The figure depicts that 31 among them 58% of the samples were using alcohol > 6 years 21% were using 3- 6 years 11% were using alcohol 1-3 years and 10% were using alcohol < 1 yr.Majority of the participants had (88%) alcoholism,16% had smoking 23% had betel chewing and 28% had Pan chewing

Section II
Identification of pattern of Alcohol Consumption

Risk level categorization of the participants based on AUDIT score		
Risk Level	**Frequency**	**%**
ZONE 1	13	25%
ZONE 2	10	19%
ZONE 3	9	16%
ZONE 4	21	40%

Table 1elicits that 25% participants were included in zone1 with low risk drinking , 19 % included in zone 2 with medium level risk, 16 % included in zone 3 with moderate hazardous level and 40% included in zone 4 with harmful drinking

SECTION C
Alcohol related Health Problems of Fishermen

Disorders	Frequency	%
Digestive system	35	66%
Musculoskeletal system	31	58%
Endocrine system	26	49%
Integumentary system	24	45%
Respiratory system	17	32%
Circulatory system	17	32%
Nervous System	14	26%
Renal System	13	24%
Sensory system	8	15%

Table -2shows that among the participants 35 (66%) were with digestive system disorders, 31(58%) were with Musculoskeletal disorders,26(49%) were with endocrine disorders, 24(45%) with Integumentary system disorders, 17(32%)were with respiratory system disorders,17 (32%) were with circulatory system disorders , 14(26%) were with nervous system disorders ,13(24%) were with renal system disorders and 5(15%) were with sensory disorders.

Ranking of Health Problems Based on Symptoms

Symptoms	Frequency	%	Rank
Muscle & Joint Pain	19	36%	1
Abdominal Pain	17	32%	2
Hyperglycemia	15	28%	3
Obesity	15	28%	3
Loss of appetite	13	24%	4
Psoriasis	12	22%	5
Chest Pain	10	19%	6
Heart burn	9	17%	7
Asthma	8	15%	8
Loss of memory	8	15%	8

Among the participants 18(36%) experienced muscle and joint pain,17(32%) abdominal pain,15(28%) hyperglycemia,15(28%) obesity,13(24%) loss of appetite ,12(22%) psoriasis,10(19%), chest pain,9(17%) heart burn,8(15%)Asthma, and 8(15%)loss of memory.

Association between Selected Demographic Variables and Level of Pattern of Alcohol Consumption

N=53

	Zone-1&II	Zone-III&IV	X^2	P Value	Level of significance
Age					
<45 Years	16	5	17.23	.000033	<.01*
>45 Years	6	26			
Education					
Illiterate	5	21	6.12	.0133	<0.05*
Literate	14	13			
Income					
<10000	7	21	5.30	.0212	
>10000	14	11			<0.05*

*significant at

There is relationship between the age,education, and income of the participants and the hazardous and harmful pattern of drinking at <0.01 ,<0.05,<0.05 level of significance respectively.

IV. Discussion

The Present study assessed the pattern of drinking and the health problems among fisher men in the coastal areas of Trivandrum. Majority of the participants (88%) had alcoholism, 16% had smoking, 23 % had betel chewing and 28 % had pan chewing and 58% of the samples who were alcoholics were addicted to alcohol more than six years. In a study done in Maharashtra 63.4% were alcoholic and tobacco consumption was seen among 73. 4% of fishermen[.1]

AUDIT score of the participants revealed that 40% of those who are alcoholics belong to zone IV where active intervention of referral to specialist for diagnostic evaluation and treatment is mandatory .16% of them was included in zone III where simple advice plus brief counseling and continued monitoring is required. 19% of them were in the zone II, in need of simple advice and 25 % were in zone I where alcohol education is suggestive.

Alcohol adversely affects multiple organ system of the body manifested as various health problems. The study analyzed health problems experienced by the fisher men who consume alcohol and identified that all organ systems of the are affected with specific disorders of the organ system as reported by the participants . Health problems related digestive system and musculoskeletal system was reported 66% &58% of the participants respectively. Effects on endocrine system and integumentary system were evidenced by diabetes Mellitus (28%) thyroid disorders (11%) and obesity (28%) among the samples. Studies have identified association of skin diseases with alcoholism and the relative risk of developing dermatitis in female alcoholic patients [6.]There was considerable improvement in the symptoms with cessation alcohol use [7] According to WHO among alcohol related deaths, 28% were due to injuries,21% due to digestive disorders, 19% due to cardiovascular diseases and the remaining due to infectious diseases ,cancers and mental disorders.[3]

The present study identified significant association between age, education and the income of the fishermen with the pattern of alcohol consumption. Fisher men of younger age were found to be in the Zone I of low risk level of alcohol consumption whereas, the fishermen >55 years were more in Zone III & IV in harmful pattern of   drinking .Similar results have been depicted in studies where there was association between age and the alcohol consumption.[1]The prevalence of toxic level of consumption of alcohol and tobacco was lower among those with superior educational level as in a study done in Morocco.[9]In contrast to the result of the present study the prevalence of smoking hookah (7.9% vs. 3.4%; p = 0.002) and alcohol consumption (38.3% vs. 33.6%; p = 0.114) was higher in subjects under 40 years.[9] Alcoholism among fishermen who are poor can make them further low in economic status as they incur additional expense and debt to satisfy their addictive behaviors. In contrast to the finding of the study alcohol consumption was high among high family income group in studies done in Taiwan[10] and Karnataka,[8]owingeasy accessibility and affordability of alcohol among those with high economic status .Both among high and low economic status awareness need to be created to avoid alcohol consumption to decrease economic hamper and to increase productivity.

Ignorance of drinking limits and the risk associated with alcohol consumption among fisher men is an established fact. The misbelief that tobacco and alcohol consumption 'increases work efficiency' was very much prevalent (15% - 20%) among studied fishermen.[1] Social and environmental influences, such as customs and attitudes that favor heavy drinking too persist across coastal regions. Many of the fishermen consume alcohol without having knowledge of safe level of alcohol consumption. Identification of harmful patterns of drinking is beneficial for health promotion and for raising awareness about harmful and dangerous smoking and alcohol consumption. It renders an opportunity to take adequate precautions that are effective in reducing health problems associated with alcohol consumption.

V. Conclusion

Alcoholism is a social malaise which is very common among men and among men involved in the occupation of fishing. It adversely affects all aspects of human life, give rise to personal and social problems in addition to harmful effects on health. Creating awareness, frequent assessment and ongoing monitoring can be beneficial from the part of health personal to prevent harmful effects of alcoholism.

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