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ORIGINAL ARTICLE

PREVALENCE AND PATTERNS OF ALCOHOL INTAKE AMONG INDUSTRIAL WORKERS IN MANGALORE: AN APPRAISAL BY ALCOHOL USE DISORDER IDENTIFICATION TEST (AUDIT)

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ABSTRACT: BACKGROUND: WHO estimates two billion alcoholic beverages consumers and 76.7 million people with diagnosable alcohol-use disorders worldwide(WHO)and ranks 5th as a risk factor for avoidable disease measured by Disability Adjusted Life Years (DALY) (WHO,2002). **OBJECTIVE:** 1. To Assess Prevalence alcohol use among the selected Industrial workers. 2. Factors associated with alcohol use. **METHODS:** This cross-sectional study was conducted in one of selected wood and plywood industry among all the industrial workers aged 18 years and above from October to November 2013. Socio-demographic profile of all the participants was collected, questions on prevalence and dependence on alcohol use and its dependence was assessed using AUDIT questionnaire modified as per local needs and validated was used. The data collected was analyzed using SPSS 16.0. **RESULTS:** Mean age of the study subjects was 33.4 years, most of the participants (44.8%) were in the age group of 18-28 years and majority were Hindu and were belonging to class IV socio-economic status. **MAJORITY:** (55.2%) of the study participants were alcohol users and majority (61.6%) was in the age group of 18-28 years. Religion and socio-economic status were the factors found to be statistically significant with alcohol use. **CONCLUSION:** Prevalence of alcohol use was significantly higher in the selected industry were religion and socio-economic status were the significant factors associated with tobacco use. Counseling and continuous monitoring is needed to reduce the prevalence of alcohol use and also further study is recommended on a larger scale.
KEYWORDS: Prevalence, Alcohol use, AUDIT.

INTRODUCTION: Alcohol abuse has become a major cause of morbidity and mortality all over the world and India being a developing country, alcohol use has been considered a major public health problem.[1] According to WHO 2002, alcohol ranks 5th as a risk factor globally for avoidable diseases measured by Disability Adjusted Life Years (DAILY).[2] Heavy alcohol consumption reduces life expectancy of a person by 10-12 years, moreover affecting productivity in developed and developing nations.[3] A recent study highlighted that in India health loss from alcohol will keep on escalating unless necessary efficient intervention and policies are implemented to reduce its intake.[4]

As alcohol consumption in India has increased in recent decades, it is necessary to know the prevalence of alcohol consumption among the type of consumers so as to launch a well-planned nationwide programme for the prevention and control of this cataclysmic social pathology.

AUDIT provides a framework for intervention to help drinkers to reduce or cease alcohol consumption and there by avoid its harmful consequences.[4]

Several studies in the past have been conducted in relation to alcohol use and substance abuse but very few studies have been conducted on high risk population such as industrial workers which are included in this study.[5,6,7]

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Hence this study is conducted to assess the prevalence and patterns of alcohol use among selected industrial workers located in Mangalore and to have tailor made B.C.C (Behavioral Change Communication) strategies as per need.

METHODS: A descriptive cross-sectional study was conducted using AUDIT (Alcohol Use Disorder Identification Test) questionnaire modified as per local needs and validated. A detailed questionnaire was used to assess the socio-demographic details, alcohol use, prevalence of alcohol use and its dependence.

All industrial workers (134) aged 18 years and above in a selected wood and plywood industry located in Mangalore district were included in the study and the study was conducted over a period of 2 months (October 2013-November 2013).

All those who were willing to participate were included in this study.

Necessary permissions to conduct the study were obtained from the University ethics committee and concerned authority of the industry. Written informed consent was obtained from the respondents after explaining the nature and objectives of the study in their own local language and confidentiality was assured. Data was collected by one to one interview method using AUDIT questionnaire modified as per local needs and validated.[8] The questionnaire consisted of 10 questions which will help the practitioner identify whether the person has hazardous (Or risky) drinking, harmful drinking, or alcohol dependence. The questionnaire was anonymous and the anonymity was maintained.

The data was analyzed using SPSS 16.0 and the results were presented in terms of descriptive statistics as frequency, percentage, mean and standard deviation and chi square test was used to find the association between socio-demographic factors and alcohol use.

Hazardous drinking.[8] it is a pattern of alcohol consumption that increases the risk of harmful consequences for the user or the others.

Harmful alcohol use.[8] refers to alcohol consumption those results in consequences to physical and mental health.

Alcohol dependence.[8] it is a cluster of behavioral, cognitive and psychological phenomenon that may develop after a repeated alcohol use.

RESULTS: A total of 134 study participants aged 18 years and above were included in the study and the mean age of the study participants was found to be 33.4+/-13.049 years. Table 1 represents baseline socio-demographic characteristics of the study participants which shows that majority (44.8%) of the study participants were in the age group of 18-28 years, 86.5% were belonging to Hindu religion, 61.9% were from the joint family, 58% were married and 85.1% of the study participants were belonging to class-IV socio-economic status according to modified Kuppuswamy classification.

Figure 1 represents distribution of study participants according to alcohol use, which shows that prevalence of alcohol among the selected industrial workers is 55.2% (n=74). Figure 2 shows majority 50 %(n=37) of the alcoholics were in the age group of 18-28 years.

Figure 3 shows that 36.5% of the alcohol users belong to the category of hazardous and harmful alcohol use as well as possible alcohol dependent according to AUDIT scoring system.

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Table 2 depicts mean and standard deviations of hazardous, harmful alcohol use and nicotine dependence symptoms and found that the mean and S.D of harmful alcohol use (5.29+/-2.358) is comparatively more than the other domains.

Table 3 represents risk level scoring according to AUDIT amongst the study population (n=134) which shows that majority of the study participants (63.4%) fall in the zone I (risk level scoring – 0 to 7) followed by zone II (29.1%) with a risk level scoring of (8-15).

Table 4 represents univariate analysis to find the association of socio-demographic factors and alcohol use which shows that religion and socio-economic status were found to be statistically significant ($p<0.05$) factors associated with alcohol use.

DISCUSSION: This paper provides information on alcohol use – hazardous, harmful alcohol use and dependence among all industrial workers (n=134) of a selected industry located in Dakshina Kannada district of Karnataka.

We used AUDIT.[8] as a screening tool to find hazardous, harmful alcohol use and alcohol dependence which was developed by WHO, and provides a framework for intervention to help risky drinkers to reduce or cease alcohol consumption and thereby avoid a harmful consequences of their drinking. Most studies.[9,10] have found that the recommended cut-off of 8 have a approving sensitivity and usually poorer but acceptable specificity for the current ICD-10 alcohol use disorder as well as the risk of future harm.

Our study found that the mean age of the study participants was 33.4+/-13.049 years (range 18-65) which is similar to the study conducted by M. Chagas Silva et al.[11] on prevalence and correlates of hazardous drinking in industrial workers in Goa in which the mean age of the study participants was found to be 41.7+/-7.9 years (20-60 years).

The overall prevalence of alcohol use was found to be 55.2% and the prevalence of hazardous and harmful alcohol use, using a cut-off value of 8 on the AUDIT.[8] amongst alcohol users was found to be 36.6% which was found to be considerably higher from the study conducted on the industrial workers of Goa[11] and the difference could be due to use of total population in comparison of alcohol users as a denominator in their study and Majority of alcohol users were found to be higher in the younger age group (18-28 years).

The mean AUDIT score among hazardous drinkers, harmful drinkers and alcohol dependence was found to be 3.39+/-1.60, 5.29+/-2.358 and 2.84+/-1.8 respectively. In our study mean AUDIT score among hazardous drinkers was found to be considerably lower than the M. Chagas Silva et al.[11] study (12.8+/- 5.96), which could be due to small sample size in our study.

Our study found religion and socio-economic status as statistically significant factors ($p<0.05$) associated with alcohol use, which was found to be similar with the study conducted in Goa among the Industrial workers,[11] where hazardous drinking was found to be more in catholics with an odds ratio of 1.3 ($p<0.005$).

CONCLUSION: We determined risk level scoring among the study population to define the interventions suggested by WHO developed AUDIT.[8] scoring and interpretation system and we found that majority (63.4%) were falling in the Zone I requiring alcohol education as an intervention and 29.1% were falling in the Zone II that require simple advice and patient education materials as the most appropriate tool of intervention to reduce or cease alcohol consumption.

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This study has demonstrated significantly higher prevalence of alcohol use in the Zone I and Zone II on the AUDIT scoring and risk level classification wherein individuals with a score of 0-7, 8-15, 16-19, 20-14 on the AUDIT scoring system falls in the category of zone I, zone II, zone III, zone IV respectively and interventions for the classified zones ranges from simple advice to referral to the specialist for diagnostic evaluation and treatment. In the present study religion and socio-economic status were found as significant predictors to be associated with alcohol use. Thus with the present understanding of the hazard seen, will enable to plan appropriate health intervention as demonstrated.

Variables	Number (n=134)	Percentage (%)
Age(years)		
18-28 years	60	44.8
29-38 years	27	20.1
39-48	24	17.9
49-58	17	12.7
58 and above	6	4.5
Religion		
Hindu	116	86.5
Muslim	13	9.70
Christian	5	3.7
Type of family		
Nuclear	51	38.1
Joint	83	61.9
Marital Status		
Single	56	42
Married	78	58
SES		
Class II	2	1.5
Class III	18	13.4
Class IV	114	85.1

Table 1: Socio-Demographic Characteristics of the Study Participants

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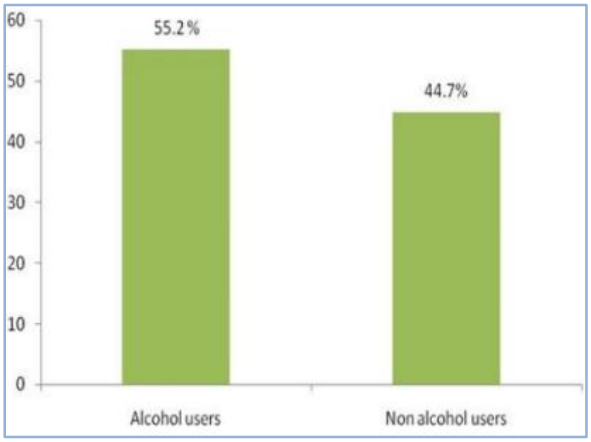

Figure 1: Distribution of Study Subjects According to Alcohol Use (n=134)

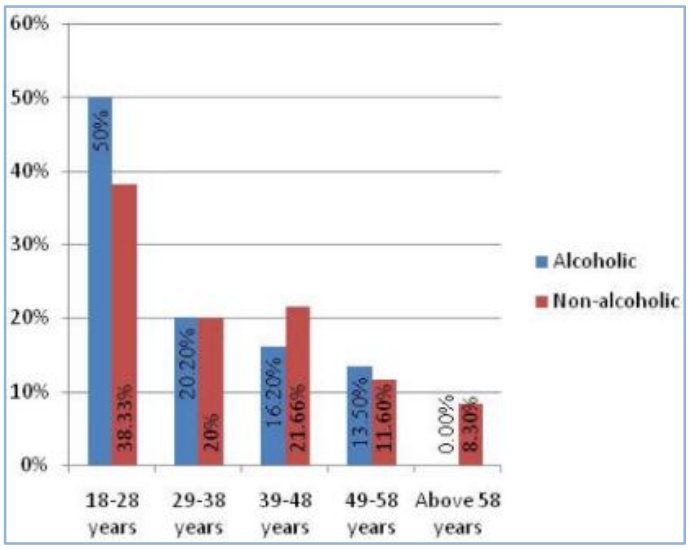

Figure 2: Age Distribution among Alcoholics (n=74)

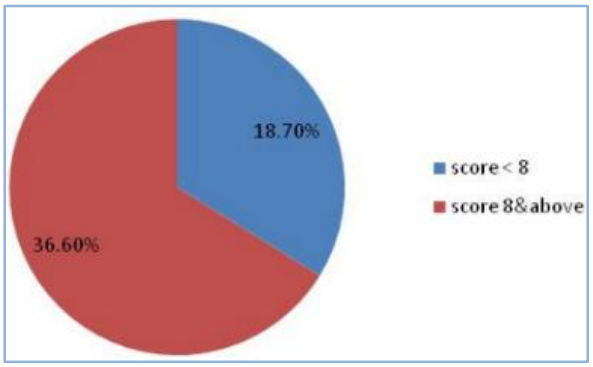

Figure 3: Prevalence of Hazardous, Harmful & Alcohol dependents Alcoholics (n=74)

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Domains	Mean	Standard deviation(S.D)
Hazardous alcohol use(n=74)	3.39	1.60
Dependence symptoms(n=44)	2.84	1.8
Harmful alcohol use(n=66)	5.29	2.358

Table 2: Means of Hazardous, Harmful Alcohol use and Dependence Symptoms among Alcoholics

	Frequency (n=134)	Percent (%)	Intervention Suggested by WHO
Zone I	85	63.4	Alcohol education
Zone II	39	29.1	Simple advice
Zone III	9	6.7	Simple advice plus brief counselling and continuous monitoring
Zone IV	1	.7	Referral to specialist for diagnostic evaluation and treatment
Total	**134**	**100.0**	

Table 3: Risk Level Scoring among the Study Population

Variable	Alcohol User		P Value
	Yes	No	
Religion Hindu	71(61.2%)	45(38.8%)	0.03
Others	3(16.7%)	15(83.3%)	
Socio Economic Status Lower middle class	6(30%)	14(70%)	0.01
Upper lower class	68(59.6%)	46(40.4%)	
Marital Status Married	41(55.4%)	37(61.7%)	0.465
Unmarried	33(44.6%)	23(38.3%)	
Type of Family Nuclear	28(37.8%)	23(38.3%)	0.952
Joint	46(62.2%)	37(61.7%)	

Table 4: Univariate Analysis of Socio-Demographic Factors and Alcohol Use

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