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Alcohol Consumption By Migration Construction Workers In Urban Population In Tamilnadu: An Assessment With Audit Questionnaire.

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Abstract

Background:

Alcoholism is a serious public health concern in India, a developing country, particularly among migrant workers. The study is undertaken to assess the pattern of Alcohol consumption in Migrant workers and its impact in their life. This will aid in developing appropriate policies to improve their working conditions and help them get over substance abuse practices.

Objectives:

To assess the pattern of Alcohol consumption in Migration Workers

To analyze the Influence of various socio demographic factors on substance abuse

MATERIALS AND METHODS:

It was a crosssectional study conducted among 134 Construction Migration workers at Thermal Power Construction site at North Chennai, Tamil Nadu. The World health organization (WHO) recommended Alcohol Use Disorder Identification Test (AUDIT) was used to collect data regarding alcohol use in the study population after getting Informed consent. The results were analyzed statistically.

RESULTS

The majority of study participants were aged 20 to 39. All the study participants were male. 7.5% were illiterate. 83.5% of them were employed by private contractors. 53.73% of the subjects reported using alcohol and tobacco simultaneously. There was no statistically significant relationship between the study subject's educational background and the prevalence of alcohol use. Almost 20 % of Alcohol consumers come under the category of hazardous drinking.

CONCLUSION:

Unskilled and semi-skilled migrant construction workers were observed to have a significant prevalence of high-risk behaviors, such as cigarette and alcohol misuse. The study will aid in the further development of initiatives for health promotion. It is necessary to take action to improve the working conditions for construction workers by ensuring that they have access to safety equipment, sanitary living quarters, and sanitation facilities on the job sites, as well as readily available and responsible occupational health services.

Keywords: Alcoholism , migration workers ,substance abuse ,AUDIT questionnaire

Introduction

According to the 2017 Economic Survey in India, approximately 9 million people moved across state lines in 2017. The building industry is vital to the economy and makes substantial contributions to GDP. Since it requires a lot of people to get things done, it accounts for 44 percent of India's unorganized urban workforce. [1-3]

Alcoholism is a serious public health concern in India, a developing country, particularly among migrant workers. Workers whose drinking causes them to miss work are a major economic burden on our society. [4]

Most migrant laborers are young men, and they must be away from home for extended periods of time [5]. Stress, isolation, and loneliness are common among migrants, leading many of them to drink heavily [6-9]. Alcohol consumption has been found to be widespread among migrants [6,8]. Workers in the migration industry regularly down many alcoholic beverages in one sitting [7, 8]. Migration workers may have higher weekend alcohol consumption than the overall population [10]. Previous research has also indicated that migratory employees typically drink less frequently but more heavily [11].

Laad et al. reported that 15.6 percent of construction employees regularly consume alcohol [3]. Most workers in the construction industry fall within the age range of 15–45. They tend to be job-related nomads who must constantly uproot their one-person households. Substance misuse, especially of alcohol and tobacco, is therefore widespread among this group. [12,13] Heavy labor is required in the construction sector, and living and working conditions are sometimes unsanitary, particularly in third-world countries like India. Substance misuse is common

because of people's exposure to an unhygienic environment, their work schedules, and the lack of opportunities for fun and relaxation. Individual beliefs and values, cultural norms and practices, and the availability, price, and ease of obtaining the addictive substance all have a role in shaping the development of addiction.[14] It is possible that social stigmas, a lack of knowledge, and the incorrect idea that alcohol helps with concentration, calms anxiety, and boosts mood all contribute to increased alcohol intake. Construction workers had the highest rates of excessive alcohol use among the major industries.[15] There is a pressing need for this study in fast-developing countries like India, where the construction industry is thriving yet worker health is often disregarded. There is a similar lack of information regarding the prevalence and related factors of alcohol use in the construction business. Only a handful of community-based studies have looked at the rate of drinking among Indian construction workers. It would appear that there is a significant problem with alcohol misuse among construction employees. Most alcoholics also have a problem with other substances, such cigarettes or chewing tobacco. A disproportionate number of men are included in this category.[16] We conducted a cross-sectional study using the AUDIT questionnaire to assess the prevalence of alcohol use and to define the factors that may have contributed to this trend among migrant construction workers. The aggregate AUDIT score (the sum of the 10 sub scores) is the outcome measure of interest. The Alcohol Use Disorders Identification Test (AUDIT) was developed by the World Health Organization (WHO) in the 1980s; it has now been widely validated in several countries, including India. [17-19]

Many organs are damaged by alcohol, and it also causes psychomotor dysfunction (such as problems with walking, talking, thinking, and focusing, as well as poor motor coordination and a diminished ability to detect danger). A higher cumulative intake of alcohol is associated with an elevated mortality risk [20]. There is a correlation between alcohol intake and the development of cardiovascular disease, hypertension, and liver disease [21]. People with alcohol consumption issues sometimes also suffer from psychiatric conditions including anxiety and depression [22]. In addition, hypoglycemia and a reduction in blood sugar levels may result from consuming a lot of alcohol without first eating [23]. Accidents are more likely to occur when someone with this disease is present because of a decline in manual skills, weariness, and impatience. Those who drank alcohol the night before may mistakenly assume they are fully functional and lucid the following day. Contrary to common belief, the body's natural process of diminishing the effects of alcohol will not be sped up by things like a long sleep, a cold shower, or water and coffee.

In addition, drinking too much alcohol often leads to the dreaded malaise, or "alcohol hangover" [24], which manifests itself hours, or even a full day, later. Fatigue, irritability, weakness, headache, thirst, photophobia, and heightened sensitivity to noise are only some of the common symptoms of this phenomenon [25]. Alcohol and other psychotropic substances can make an employee dangerous to himself and others [26]. The effects of alcohol on the perception of pain are similar. As an illustration, nondrinkers had a 23% lower pain tolerance than occasional drinkers and a 42% lower threshold than daily drinkers [27].

Liu et al. [28] conducted an experiment which found that the typical human body can metabolize 0.12–0.15 grams of alcohol per hour. The rate at which alcohol is metabolized is affected by several variables, including but not limited to sex, body weight, genetics, the types and quantities of food consumed, and overall health. Only when

the blood alcohol concentration (BAC) rises above a certain threshold can alcohol enter the brain and other organs of the body. Drinking too much alcohol over a long period of time increases the risk of developing alcoholic liver disease (liver cirrhosis), cardiac damage, and ischemic stroke [29,30].

The study is undertaken to assess the pattern of Alcohol consumption in Migrant workers and its impact in their life. This will aid in developing appropriate policies to improve their working conditions and help them get over this substance abuse practices.

OBJECTIVES

To assess the pattern of Alcohol consumption in Migration Workers

To analyze the Influence of various socio demographic factors on substance abuse

MATERIALS AND METHODS

Study design:

Cross-sectional community-based study (with individual face to face interview).

Study area

Thermal power construction site, North Chennai, Tamil Nadu where there is a large concentration of temporary worker accommodations.

Reference population:

The study population was representative of the whole of migration construction workers in Chennai.

Inclusion criteria

1. Migration construction workers working in the construction field at least for the last one year.
2. Migration construction workers willing to give written informed consent

Exclusion criteria 1. Migration construction workers not willing to give informed consent

Study period

The data collection for the study period was done between 3rd April 2023 to 3rd July 2023

Sample Size:

In a preliminary study [31], it was found that alcoholism affected about 70% of the population. Using this prevalence rate, and assuming a relative error of 10%, an alpha error of 5%, and other assumptions, we calculated a sample size of 92 (after accounting for finite population correction). Allowing for 10% non-response brought the total to 103. Ultimately, it was decided that the study needed to enroll a minimum of 105 participants.

Sampling method

Sampling method used was simple random sampling.

Study tools

The World health organization (WHO) recommended alcohol use disorder identification test (AUDIT) was used to collect data regarding alcohol use in the study population.

Pilot survey

After that, a pilot study was conducted on 20 people to see whether administering tools in a field environment was feasible.

Ethical considerations

Approval was obtained from Institutional Review Board, Saveetha medical college 954/04/2023/faculty/SRB/SMCH. Informed consent in the participants' mother language was collected from the participants. The participant's privacy was protected. The opportunity to withdraw from the survey was given to participants if they so desired. There was no attempt of coercion. The study's interviews were conducted in a private environment at the workplace. The subject had the option of having the interview in their preferred language or in English.

Analysis of data

All of the collected information was cataloged, placed into an Excel spreadsheet, and analyzed statistically. Mean and standard deviation were determined using numerical data. Prevalence was described in terms of percentages. The Chi-Square test was utilized to ascertain statistical significance. P 0.05 was chosen as the level of statistical significance. SPSS-2 was used to perform statistical analyses on the collected data. The rate at which migrant construction workers consumed alcohol was the dependent variable. Social and demographic factors were included as potential explanations. Percentages, means, variances, t-tests, and chi-square tests were used appropriately for analysis.

RESULTS

144 people were contacted, and 10 (7.4%) of them declined to take part. The reasons for not participating included being preoccupied with work, feeling worn out, and being uninterested. The final analysis included 134 participants in total. The majority of study participants (70.1%) were aged 20 to 39. All the study participants were male. 7.46% of the 134 participants were illiterate, 64.1% had completed elementary school, 19.4% had finished secondary school, and only 8.9% had gone on to receive formal education after high school. The majority of them (83.5%) were employed by private contractors, with the remaining individuals either engaged in government outsourcing or were unsure of their line of work (Table 1).

Only 2.9% of survey participants reported not abusing substances or alcohol. A large percentage of study participants (97%) reported using at least one drug. Multiple drug users made up a sizable fraction of the study's

participants. 53.73% of the subjects reported using alcohol and tobacco simultaneously, and 22.3% of those who did so also used smokeless tobacco. (Table 2)

With an individual's advancing age, alcohol intake prevalence exhibited an upward trend. However, the disparity in prevalence between the various age groups was not statistically important (p-value 0.56). There was no statistically significant relationship between the study subject's educational background and the prevalence of alcohol use (Table 3).

The risk stratification of alcoholics was carried out using multiple AUDIT cut off levels, which showed patterns of alcohol consumption, drinking behaviors, and alcohol-related problems. (Table 4)

Out of 130 alcoholics, 24 (or 18.4%) had AUDIT scores between 8 and 15, 3 (or 2.3%), among the subjects, had AUDIT scores between 16 and 20, and 103 (or 79.2%) had AUDIT scores below 8. None of the participants in the current study had a AUDIT score more than 20 (Table 5)

A score of 8 or more is considered to indicate hazardous or harmful alcohol use.

Discussion

In their areas of employment and residence, construction workers are subject to a variety of risks. They are exposed to threats that include psychological, social, chemical, physical, ergonomic, and biological. [32,33] The majority of the time, the workers live in temporary camps on the project sites, putting their health at danger even after work hours. There is a considerable risk of contracting infections at work sites because of the unsanitary environments and tainted water.[32,33,34]

Extremes of temperature, age, male gender, personal habits including alcohol usage, risk-taking personality qualities, and the worker's physical and mental condition all raise the likelihood of accidents.[35]

Since the majority of the workers were illiterate, there is a lack of knowledge about healthy choices, and it was anticipated that the prevalence of addictions would be significant among them. 72% of the employees smoked tobacco, and 30% chewed tobacco. Prevalence was formerly stated to be 50.48%, 60.2%, and 57% nationwide.[33,36,37] The majority of them were puffing on smokeless tobacco. The present rate of alcohol use (97%) was greater than in earlier research (14.6%), 18.8%, and the national estimate of 21%.[33,36,37] These workers experience anxiety due to the lack of recreational amenities, the nature of the work, the hours worked, the low pay, the substandard housing and separation from family, the lack of job security, and the inability to access occupational health care. [32,34]

In this study, male industrial workers in India were randomly selected to participate in a survey about hazardous drinking. The study's main conclusions were that hazardous drinking was widespread, affecting a quarter of all male industrial workers". Early onset of drinking, less education was all linked to dangerous drinking. Even though hazardous drinkers were much more likely to admit that they had a drinking problem, only few of them had really sought treatment. Risky drinkers had a far higher likelihood of experiencing a negative health result, such as hospital admissions.

Currently, India's alcohol policy takes a moral stance rather than using a scientific method to comprehend and address the issue of alcoholism. Construction business employees tend to be unmarried and migrate frequently. Due to their schedules at work and lack of leisure time, they turn to substance misuse. Our study joins the small number of community-based studies that have assessed the prevalence of alcohol use among construction workers in India, and the findings will help understand the scope of the issue as well as raise awareness for the need for community-level intervention. To lessen the burden of illness caused by alcohol use among construction workers, an urgent intervention program must be developed. Regular health education workshops emphasizing behavior change are required, with a particular focus on alcohol cessation. For these high-risk groups of construction workers, screening camps for malignancies linked to alcohol consumption can be planned. It is crucial to provide those in need with services including counseling, drug addiction treatments, and an inexpensive supply of pharmaceuticals. The Indian government should give primary attention to the workers' health who work in the building business.

Conclusion:

Alcohol addiction is a severe social issue that needs immediate attention and intervention in order to raise awareness among the influential social groups. It is comparatively more prevalent among migrant construction workers than it is among the general population. Unskilled and semi-skilled migrant construction workers were observed to have a significant prevalence of high-risk behaviors, such as cigarette and alcohol misuse. The study will aid in the further development of initiatives for health promotion. It is necessary to take action to improve the working conditions for construction workers by ensuring that they have access to safety equipment, sanitary living quarters, and sanitation facilities on the job sites, as well as readily available and responsible occupational health services.

Table 1: Socio-demographic characteristics of study population (N=134).

Age	below 20	20 to 39	Above 40	
	12 (8.9%)	94 (70.1%)	28 (20.8%)	
Sex	Male	female		
	134 (100%)	0		
Educational status	No formal schooling (Illiterate)	Up to primary schooling	Up to secondary schooling	Beyond High School /College
	10 (7.5%)	86 (64%)	26 (19.4%)	12 (9%)
Type of employment	Government contract employee	Private contract employee	self employed	Don't know
	8 (6%)	112 (84%)	0	14 (10%)

Table 2: Summary of substance use among construction workers (N=134).

No Substance abuse	4 (3%)		
Anyone substance abuse	130 (97%)		
	Alcohol	smoking & Alcohol	Smokeless tobacco & Alcohol
	28 (21%)	72 (54%)	30 (22%)

Table 3: Influence of various socio demographic factors on substance abuse

Parameters	No. of Participants with Substance abuse n (%)	No. of Participants with no Substance abuse n (%)	P value
Age group			
Below 20 (n=12)	11 (92%)	02 (16.6)	0.56
20 to 39 (n=94)	93(99%)	01 (1)	
Above 40 years (n=28)	27 (96%)	01 (3.6)	
Educational status			
No formal schooling (illiterate) (n=10)	10 (100%)	0	0.83
Up to primary schooling (n=86)	86 (100%)	0	
Up to secondary schooling (n=26)	25 (96.1%)	1 (3.8)	
Beyond High School /College(n=12)	09 (75%)	3 (25)	

Table 4: Pattern of Alcohol Consumption using Alcohol Use Disorders Identification Test (AUDIT) Questionnaire

Questions	Responses with Assessment score in paracentesis				
	Never (0)	Monthly or less (1)	2-4 times a month (2)	2 or 3 times a month (3)	4 or more times a week (4)
How often do you have a drink containing alcohol? (N=134)	4 (3%)	46 (34.3%)	40 (29.9%)	39 (29.1%)	5 (3.7%)
How many drinks containing alcohol do you have on a typical day when you are drinking? (N=130)	0	46 (35.4%)	58 (44.6%)	22 (16.9%)	4 (3.1%)
How often do you have six or more drinks on one occasion? (N=130)	50 (38.5%)	46 (35.4%)	24 (18.5%)	10 (7.7%)	0
How often during the last year have you found that you were not able to stop drinking once you had started? (N=130)	25 (19.2%)	80 (61.5%)	15 (11.5%)	10 (7.7%)	0
How often during the last year have you failed to do what was normally expected from you because of drinking? (N=130)	88 (67.7%)	42 (32.3%)	0	0	0
How often during the last year have you needed a first drink in the morning to get yourself going? (N=130)	105 (80.8%)	25 (19.2%)	0	0	0
How often during the last year have you had a feeling of guilt or remorse after drinking? (N=130)	36 (27.7%)	80 (61.5%)	14 (10.8%)	0	0
	46 (35.4%)	78 (60%)	6 (4.6%)	0	0
Have you or someone else been injured as a result of your drinking (N=134)	46 (34.3%)		84 (62.7%)		4(3%)
Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down? (N=134)	122 (91%)		9 (6.7%)		3(2.2%)

Table 5: Risk Stratification using AUDIT Scores

Total Audit score	Number of participants with substance abuse n=130	Percentage
below 8	103	79
8-15	24	18
16-20	3	2
more than 20	0	0

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Conflict of interest: Nil

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