

Original Article

Burden and Factors Influencing Tobacco Use and Other Substance Abuse among Immigrant Construction Workers in Chennai — A Community Based Cross Sectional Study

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Abstract

Background : Substance abuse, especially Tobacco use, is highly prevalent among migrant construction workers due to stress, weak support systems and easy access. This study aims to estimate the prevalence and assess the influencing factors of substance abuse among this population.

Materials and Methods : This Community based Cross-sectional study was done with a pretested semi-structured questionnaire that was administered among 420 migrants in ten randomly chosen construction sites in Chennai between May 2017 and May 2018, after informed consent in their native language. Logistic regression was applied to find the predictors of substance users using SPSS.

Results : Among 420 participants, 340 (81%) were found to be abusing at least one form of substance. Among the 340 substance abusers, majority were using Tobacco 289 (85%) along with other substances followed by Alcohol 193 (57%), Ganja 41 (12%) & Cough syrup 5 (2%). 154 (53.3%) initiated the habit because of their friends and peers. 56 (19.37%) of them mentioned stress to be the reason. Age, Sex, Residence near the work place, Type of work, Working experience, Working hours were found to be statistically significance (p value <0.05) association with substance abuse using multiple logistic regression.

Conclusion : Awareness programs concerning substance abuse with cessation measures should be implemented for migrant construction in cooperation with employers.

Key words : Migrant Construction Workers, Substance Abuse, Tobacco.

Substance abuse, particularly Tobacco use plagues India causing premature deaths and health problems¹. Varying values, stress, weak support systems, social norms and easy accessibility to substances exacerbate this issue. Substance abuse burdens individuals and society, particularly vulnerable migrant construction workers due to demanding conditions and misconceptions about its benefits². Addressing these factors through support systems and researches tailored to their needs is crucial for their well-being. This study aims to estimate the prevalence and assess the factors influencing

Editor's Comment :

- Substance abuse is widespread among migrant construction workers, driven mainly by peer influence, long working hours, and stressful living and working conditions.
- Addressing these factors through workplace-based interventions, strengthened tobacco control and improved living arrangements is essential to protect this high-risk population.

Tobacco and other substance use among migrant construction workers.

Largely, numerous people are involved in migration, among them, migration for work is frequent in a Globalized World characterized by extreme inequality, vulnerabilities and determinants. In India, there are 30 million migrant labourers, according to a survey by the National Sample Survey Organization (NSSO). Among these around 20 million are construction workers. One of the biggest economic sectors that contributes significantly to the GDP of India is the construction industry.

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Despite being more vulnerable to a wide range of occupational dangers, very few studies have looked into the issues faced by migrant construction workers. Workers in this sector put in long hours of physical labour while living in subpar conditions. Substance abuse is one of the most important public health concerns among migrant construction workers. The unsanitary working conditions, work schedule, lack of leisure activities, and illicit companions compel them to engage in a variety of abusive behaviours, mostly substance abuse.

According to the World Health Organization (WHO), substance abuse is the continued use of drugs or alcohol in spite of awareness of a persistent or recurring social, occupational, psychological, or physical issue that is brought on by or made worse by the use of drugs or alcohol on a regular basis in physically risky situations. The usage of illegal substances, such as Prescription Medicines, Alcohol, Tobacco, Cocaine, Heroin and Marijuana, is included in the category of substance usage. One of the largest epidemics the World has ever seen is Tobacco use. Tobacco use kills over 6 million people annually Worldwide, most of them in low- and middle-income nations.

A significant region for the production and use of Tobacco is South Asia and India is ranked second. Cigarettes and Beedis are the two most often consumed forms of smoked Tobacco. Smokeless tobacco use is more common than smoked tobacco usage. Any Tobacco used orally, such as by chewing, sucking, or applying to the teeth and gums, that is not heated or burned is referred to as Smokeless Tobacco. Gul, a creamy Snuff Paste, Gutka, Chewable Tobacco, Mishri, Powdered Tobacco, Khaini, Tooth Powder and Tobacco water are some more well-liked smokeless tobacco products. Both the Smoker and those around them suffer negative consequences from Tobacco use resulting in the early death of adults, which would leave many families without a source of income and leave old and young family members desolate³.

MATERIALS AND METHODS

This Community based Cross-sectional study was conducted to estimate the prevalence and assess the factors influencing Tobacco use and other substance abuse among the migrant construction workers in Chennai in between 2017-2018.

The sample size of 420 was calculated using the formula $N = [(Z_{1-\alpha/2})^2 p(1-p)] / d^2$

with a 95% confidence level, 5% precision, and a 20% non-participation rate by assuming a 91% (p) prevalence of Tobacco use among construction workers as per the study by Parashar, *et al* in 2016⁴.

A multi-stage random sampling design was used as a sampling technique for achieving the sample size of 420. In stage 1, from the 30 active construction sites in Chennai with more than 100 workers, HIV screening was conducted by SRM University under DAPCU and TI programs. Stage 2 involved randomly selecting 10 sites from the 30 active construction sites in Chennai. In stage 3, by applying Probability Proportional to Size (PPS) sampling, individual labourers from 10 selected construction sites were included in the study. The probability of selecting a labourer from a particular site was proportional to the total number of Labourers at that site. If a selected labourer was unavailable or unwilling to participate, they were replaced with the next labourer on the list until a predetermined sample size was achieved.

A pretested, semi-structured questionnaire was used for data collection. It has four parts, Part A- a Socio-demographic profile; Part B- working conditions (occupation, working hours etc.); and Part C- Profile of Addiction to Tobacco products; Part D- Other substance use, which also includes AUDIT for Alcohol use.

The Institution's Ethics Committee approval were sought and obtained from SRM Medical University, Chennai (Ref Id: 1134/IEC/2017). Data was collected from all participants through personal interviews in the workers' native languages after obtaining informed written consent. The anonymity of the study participants was maintained.

The data was analysed using SPSS 20.0 software. The statistics used were descriptive statistics (mean, SD, frequencies, per cent), chi-square test, logistic regression and p value <0.05 were considered significant.

RESULTS

Demographic profile of the study population is shown in Table 1 based on their age, level of education, marital status and social economic class. 173 (47.5%) males were in the age group of 25-39 years.

Table 1 — Socio-demographic characteristics of the study participants (N=420)

Variables	Male N (%)	Female N (%)	Total N (%)
Age :			
<25	49 (13.5)	2 (3.6)	51 (12)
25 to 39	173 (47.5)	34 (60.7)	207 (49.3)
>40	142 (39)	20 (35.7)	162 (38.7)
Education :			
No formal schooling (Illiterate)	75 (20.6)	45 (80.4)	120 (28.6)
Up to Primary schooling	120 (33)	9 (16)	129 (30.7)
Up to Secondary schooling	164 (45)	2 (3.6)	166 (39.5)
College/University completed	5 (1.4)	0	5 (1.2)
Marital Status :			
Married	229 (62.9)	49 (87.5)	278 (66.2)
Unmarried	135 (37.1)	7 (12.5)	142 (33.8)
Socio Economic Status :			
Lower	31 (8.5)	7 (12.5)	38 (9.04)
Lower middle	127 (34.9)	22 (39.3)	149 (35.47)
Middle	102 (28)	20 (35.7)	122 (29.04)
Upper Middle	90 (24.7)	7 (12.5)	97 (23.15)
Upper	14 (3.8)	0	14 (3.3)
TOTAL	364(86.7)	56(13.3)	420 (100)

Table 2 shows the Occupational profile of the study population. Out of 420 study participants around 99 (27.2%) males were helpers by occupation, this table also shows 211 (57.96%) male participants were working for more than five years in the area of construction field.

Prevalence of any form of Substance among 420 participants, majority ie, 340 (81%) were found to be abusing at least one form of substance. Among the 340 substance abusers, majority were using Tobacco 289 (85%) along with other substances followed by Alcohol 193 (57%), Ganja 41 (12%) & Cough syrup 5 (2%).

The Reasons for initiating Tobacco Usage among the study participants has been illustrated. 154 (53.3%) initiated the habit because of their friends and peers,

Table 2 — Occupation Characteristics of the study population (N=420)

Variables	Male N (%)	Female N (%)
Nature of work		
Mason	53 (14.56)	4 (7.1)
Carpenter	44 (12.09)	0
Welder	69 (18.95)	0
Electrician	17 (4.67)	0
Plumber	13 (3.57)	0
Helper	99 (27.2)	52 (92.9)
Others	69 (18.96)	0
Work experience		
<1 year	48 (13.19)	10 (17.86)
1 to 5 years	105 (28.85)	22 (39.28)
>5 years	211 (57.96)	24 (42.86)

Almost 56 (19.37%) of them mentioned stress to be the reason.

In Table 3, the association of substance abuse with the variables were given. Age, Sex, Residence near work place, Type of work, Working experience, Working hours were found to be statistically significance (p value <0.05) association with substance abuse.

In Table 4, the multiple logistic regression for the associated variables with that of substance abuse were given. Male gender, Residence near work place, Working experience less than 5 years, were significantly (p value <0.05) determining factors for substance abuse among the study participants.

DISCUSSION

Our study shows 340 (81%) of the study participants, had at least experienced; substance abuse. The mean age of our study participants was 29 years, which is similar to the study conducted by Parashar M, *et al*,⁴

Table 3 — Association of Substance abuse with variables (N=420)

Substance Use	Any (n=340)	No (n=80)	χ^2	OR (95% CI)	p-value
Age in Years :					
<25	50 (98%)	1 (2%)	12.3	0.12	<0.001*
25 to 39	171 (82.6%)	36 (17.4%)		(0.05-0.6)	
≥40	119 (73.5%)	43 (26.5%)			
Gender :					
Male	306 (90)	58 (72.5)	17.16	4.57	<0.001*
Female	34 (10)	22 (27.5)		(2.16-9.2)	
Marital Status :					
Married	109 (76.8%)	33 (23.2%)	2.5	0.7	0.12
Unmarried	231 (83%)	47 (17%)		(0.4-1.1)	
Literacy :					
Literate	247 (82.3%)	53 (17.7%)	1.4	1.3	0.25
Illiterate	93 (77.5%)	27 (22.5%)		(0.8-2.3)	
Residence near Work Place :					
Yes	189 (55.6%)	61 (76.3%)	11.5	0.4	0.001*
No	151 (44.4%)	19 (23.7%)		(0.2-0.7)	
Work Experience in Construction Field :					
<1 year	39 (11.4%)	19 (23.8%)	24.9	4.09	<0.001*
1-5 years	91 (26.8%)	36 (45%)		(2.05-8.13)	
>5 years	210 (61.8%)	25 (31.2%)			
Working hours per day :					
≤8 hours	118 (74.2%)	41 (25.8%)	7.5	0.5	0.006*
>8 hours	222 (64.1%)	39 (15%)		(0.3-0.8)	
Type of Work :					
Manual	193 (76%)	62 (24%)	11.7	0.4	0.001*
Non-manual	147 (89%)	18 (11%)		(0.2-0.7)	
Pre-placement Examination :					
Yes	37 (10.9%)	3 (3.8%)	3.8	3.1	0.051
No	299(87.9)	79(98.8)		(0.9-10.4)	

*p<0.05 taken as Significant, OR - Odds Ratio, CI - Confidence Interval, χ^2 - Chi square Statistics.

Table 4 — Logistic regression analysis of significant factors influencing substance use among the study participants (N=420)

Variables	Adjusted Odds Ratio	95% C.I for Adjusted Odds Ratio		p-Value
		Lower Bound	Upper Bound	
Intercept				0.004
Age in Years :				
<25	7.8	0.9	61.7	0.052
25 - 39	1.1	0.6	1.9	0.86
>40	-	-	-	-
Gender :				
Male	2.6	1.3	5.1	0.007*
Female	-	-	-	-
Residence near work Place :				
Yes	0.5	0.27	0.93	0.027*
No	-	-	-	-
Type of Work :				
Manual	0.6	0.33	1.17	0.14
Non-manual	-	-	-	-
Work Experience :				
<1 Year	0.35	0.16	0.77	0.009*
1-5 Years	0.47	0.24	0.9	0.024*
>5 Years	-	-	-	-
Working Hours :				
≤8 hours	1.02	0.57	1.83	0.94
>8 hours	-	-	-	-

*p<0.05 taken as Significant, CI- Confidence Interval

Laad PS, *et al*,⁵ and Akram S, *et al*,⁶ where the mean age was between 20 and 35 years. In our study, the participants with substance abuse; who were working for more than 5 years (61.8%) on the construction site had four-times higher risk of substance abuse than those working for less than one year (11.4%), with statistical significance ($p<0.001$). The participants with substance use working for more than 8 hours per day had higher risk (p value 0.006) of substance abuse than those working for less than 8 hours per day. Similar findings were found in the study done by Amrutha AM, *et al*⁷ where working for more than 5 years and working for more than 10 hours a day were associated with a higher risk of substance abuse. Among the substance abusers, tobacco products were 85% but, in a study done by Akram Setal, *et al*⁶ where tobacco usage was found to be 54%. While Suhasini V, *et al*⁸ found that only 39% were using Tobacco, more than half of the study participants were consumers of Alcohol 57%, which contrasts with the study by Suhasini V, *et al*⁸ where only 25% were alcohol consumers. 12% of our study participants had Ganja and 2% abused Cough syrup. This contrasts with the Gavioli A, *et al* study⁹ where other forms of substance abuse were inhalant drugs, especially solvents. Age, gender, Residence near work place, Work experience and Working hours showed a statistically significant association with substance use

($p<0.05$). The reasons cited were Friends (53.3%); Stress (19.4%), and work overload (17.3%). Also, some agreed that the easy availability of these products was a reason for substance abuse. Similar findings were seen in the study done by Amrutha AM, *et al*⁷.

LIMITATIONS

The research was conducted at only 10 construction sites in South Chennai as a result of the lack of permission to conduct the study. Hence, the prevalence cannot be generalized to the whole population of migrant construction workers. Fear or insecurity may have prevented certain study participants from disclosing their actual substance abuse.

CONCLUSION

The construction industry often attracts a diverse group of individuals, including many migrant workers who are susceptible to the challenges of workplace Stress, isolation from families, and potential substance abuse. This issue not only imposes a personal burden on the individuals involved but also creates risks that can lead to accidents, decreased productivity, and major implications for both employers and the broader community. This study addressed the critical issue that affects not only the health and well-being of individuals but also the overall safety and productivity of our construction workforce: substance abuse among migrant workers.

RECOMMENDATIONS

Comprehensive Awareness Programs concerning substance abuse specifically tailored for migrant construction workers should be implemented. Such programs should focus on educating workers about the dangers and consequences of substance use, while also providing them with essential resources and support systems. We must also consider creating cessation measures that can help those who are struggling with substance abuse to regain control of their lives. These measures might include confidential counselling services, support groups, and access to rehabilitation programs. I propose that we engage in a partnership involving construction companies, healthcare providers, community organizations, and local Government agencies to develop and implement

these programs. Enforcing Tobacco laws at construction sites would regulate substance abuse among migrant workers. And also arranging quality Residence near to work place especially for the migrant workers with their family who are already away from their home would drastically reduce Stress, unnecessary Absenteeism & substance abuse by increasing quality time with friends & family. This in turn improves their overall quality of life & productivity.

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Conflict of Interest : None.

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