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PREVALENT ADDICTIONS AND HIV RELATED HIGH RISK BEHAVIOUR AMONG CONSTRUCTION SITE WORKERS AT A MEDICAL COLLEGE & HOSPITAL IN KOLKATA

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ABSTRACT

Introduction: Construction workers are susceptible to unique health problems together with stress leading to increased promiscuity and addiction. Objective of the study was to get details of prevalent addiction and sexual practices and their relationship with each other.

Methods: 125 male construction workers of a private company were approached from the premise of a new medical college in Kolkata. Semi-structured schedule was used to collect data on socio-demographic, addiction and sexual behaviour by interview technique.

Results: Analysis on 110 workers showed 58.2% consumed alcohol and 2/3rd smoked. 37% workers under 25 years had sex with FSW with condom non-use of 86.5%. Age and literacy level was significantly associated with awareness of HIV/AIDS transmission. Alcohol and oral tobacco intake was associated with increased vulnerability to HIV/AIDS (aOR=11.5 & 2.8 respectively).

Conclusion: Intensive Behaviour change communication is needed to address growing menace of alcoholism and oral tobacco among young construction workers.

Key Words: Construction workers, addiction, high risk behaviour, HIV/AIDS

INTRODUCTION

The last two decades India has witnessed a rapid economic growth, which has in turn given an impetus to infrastructure development.[1] Construction industry has become the second largest generator of labour force after agriculture in India, resulting in an influx of unskilled workers in major cities.[2] Construction industry in India is labour intensive and majority of the workers in construction industry are rural migrants.[1] As per the National Sample Survey 2007-08, number of migrant households per 1000 households in India was 33 in urban areas.[3] Two-thirds of the households mi-

grated for employment-related reasons. According to a recent report, for about every Rs.10 million invested in construction project, employment of about 22,000 unskilled man-days, 23,000 skilled or semi-skilled man-days and 9,000 managerial and technical man-days approximately is expected to be generated.[4]

Migrants are prone to develop health problems due to lack of awareness about local healthcare facility, frequent migration, food insecurity, climate and other environmental hazards. Poor working & living condition, job insecurity, poor salary, exploitation by contractors leads to psychological stress. Many workers engage themselves in drinking, smoking and addictions to cope with stress that further degrades their health.[5] Migrant workers also feel released from social restraint on their behavior when being away from home. Long-distance migration and separation of workers from their partners often encourages them to engage in casual sexual relationships with multiple partners.[6]

A previous study in 2008 in India had showed that a significant proportion of migrant workers used alcohol and engaged in paid and unpaid sex with women. The study also revealed that a considerable number of the men did not use condoms, which highlights the need for enhanced condom promotion efforts.[7] As per the National AIDS Control Organization (NACO), 2006 estimates HIV prevalence in India at about 2.5 million. Sexual transmission accounts for more than 85% of all HIV infections in India. Migrant population thus has a greater risk for poor health in general and HIV infection in particular.[8] Migrants are important, as they act as a bridge population for HIV transmission between high–risk and low–risk groups.

Very few Indian studies undertaken among Indian construction workers about addiction & risk behavior. The present study was envisioned with the purpose to get details regarding the prevalent addictions among construction workers. It is also intended to understand the prevalent sexual practices & it's relation to addictions.

METHODS

The present study is a cross sectional study. The study was done between January 2013 to December 2013. Study unit consisted of construction workers employed by a reputed private construction company in the premises of a new Government Medical College in Kolkata. Majority of construction workers were migrants from adjoining districts of Kolkata. 'Inter-state migrants'[9] being very few & local workers were excluded from the study.

As per a previous study on migrant factory workers in Kolkata, vulnerability to HIV/AIDS among migrant workers was about 48% (Non-use of condom during sex with Female Sex Worker taken as proxy of vulnerability to HIV/AIDS was about 48.3%).[9] Sample size was calculated using the formula $3.84pq/d^2$, where p (prevalence of vulnerability to HIV/AIDS) =48%, q= 52%, d (Absolute precision) =10%. A non response of about 30% was assumed considering the sensitive nature of the subject of the study. Total sample size was thus 125. Female workers being very few were excluded from the analysis.

Ethical clearance for the study was obtained from the Institutional Ethics & Technical Advisory Committee. Permission was also taken from the management group of the private construction firm. Written consent was not acquired to ensure participant anonymity and no personal identifiers were recorded. Each participant was described the objectives of the study, the participant's involvement, benefits, risks, and confidentiality in local language (Bengali) prior to obtaining a verbal consent. They were informed that their participation was completely voluntary and that they were free to refuse to answer any question or to withdraw at any time from the study.

Participants were enrolled for the study using simple random sampling. A sampling frame comprising of list of construction workers from adjoining districts engaged at the construction site was obtained from the management of the construction firm. Supervisors help was sought to build rapport with the workers and for smooth conduction of the study.

Data was analyzed by applying statistical tests like chi-square & Multinomial logistic regression analysis. Study tool consisted of a semi structured schedule to collect data on socio-demographic profile, addiction and high risk behavior. The schedule was pretested on a sample of 10 construction workers before commencing for the final study.

RESULTS

A total of 125 construction workers were approached to collect data for the study. 11(i.e. 8.8%)

workers declined their consent for participation in the study and data obtained from 4 (i.e. 3.2%) workers was incomplete thus excluded from the final analysis. Final analysis was done on data collected from 110 construction workers. Age of the workers ranged from 15 years to 59 years. Majority of workers were in the age group of 25-35 years. Nearly 2/3rd (i.e. 66%) of participants were married. Most of the workers were Hindu (i.e. 79.5%). About 9 % workers were illiterate and 8% just literate. While about similar number of workers (25%) had education up to primary, middle & high school respectively.

Table 1:- Addiction prevalent among the construction workers (n=110)

Frequency	Addictions (n=110) (%)			
	Alcohol	Smoking	Drug Abuse	Oral Tobacco
Currently Using	64 (58.2)	75 (68.2)	7(6.3)	35 (31.8)
Never used	33 (30)	33 (30)	102 (92.7)	73 (66.4)
Past user*	13 (11.8)	2 (1.8)	1 (0.9)	2 (1.8)

* Stopped consumption for more than 1 year

Table 2: Vulnerability of construction workers to HIV/AIDS (n=110)

Variables	Vulnerability											
	Awareness on HIV Transmission		p value	Sex with Female Sex Worker (FSW)		p value	Multiple Partner		p value	Regular Condom use		p value
	Yes n=72 (%)	No n=38 (%)		Yes n= 27 (%)	No n= 83 (%)		Yes n=7 (%)	No n=103 (%)		Yes n=10 (%)	No n=100 (%)	
Age (in years)												
<25	16(22.2)	21(55.3)	0.00	10(37.0)	27(32.5)	0.17	5(71.4)	32(31.1)	0.16	5(50.0)	32(32.0)	0.33
25-35	30(41.7)	5(13.2)		12(44.4)	23(27.7)		1(14.3)	34(33.0)		4(40.0)	31(31.0)	
35-45	14(19.4)	8(21.1)		2(7.4)	20(24.1)		1(14.3)	21(20.4)		0(0.0)	22(22.0)	
>45	12(16.7)	4(10.5)		3(11.1)	13(15.7)		0(0.0)	16(15.5)		1(10.0)	15(15.0)	
Marital status												
Married	49(68.1)	24(63.2)	0.61	18(66.7)	55(66.3)	0.96	4(57.1)	69(67.0)	0.59	4(40.0)	69(69.0)	0.06
Unmarried	23(31.9)	14(36.8)		9(33.3)	28(33.7)		3(42.9)	34(33.0)		6(60.0)	31(31.0)	
Literacy level												
Illiterate	5(6.9)	5(13.2)	0.00	4(14.8)	6(7.2)	0.20	2(28.6)	8(7.8)	0.21	2(20)	8(8.0)	0.37
Justliterate	3(4.2)	6(15.8)		1(3.7)	8(9.6)		0(0.0)	9(8.7)		0(0.0)	9(9.0)	
Primary school	14(19.4)	18(47.4)		7(25.9)	25(30.1)		1(14.3)	31(30.1)		1(10.0)	31(31.0)	
Middles chool	20(27.8)	7(18.4)		10(37.0)	17(20.5)		3(42.9)	24(23.3)		3(30.0)	24(24.0)	
High-school&above	30(41.7)	2(5.3)		5(18.5)	27(32.5)		1(14.3)	31(30.1)		4(40.0)	28(28.0)	

Table 3:- Multinomial Logistic regression analysis of predictors of vulnerability of construction workers to HIV/AIDS

Variables	Beta Coefficient	SE	P value	aOR	95.0% C.I. for EXP(B)
Marital Status	0.552	0.713	0.439	1.736	0.429-7.022
Age	0.360	0.340	0.290	1.433	0.735-2.793
Religion	-0.395	0.666	0.553	0.674	0.182-2.487
Education	0.126	0.239	0.599	1.134	0.709-1.813
Alcohol Intake	2.446	0.650	0.000	11.539	3.227-41.266
Smoking	-0.477	0.495	0.335	0.621	0.235-1.638
Oral tobacco consumption	1.028	0.495	0.038	2.796	1.060-7.371

*Method used in SPSS is "Enter" or Simultaneous entry

Table 1:- Shows the prevalent addictions among the labor population. More than half of the workers (i.e.58.2%) were consuming alcohol. Majority of the workers having alcohol (i.e. 76.5%) were occasional drinkers. About 13% had alcohol at least once a week and the rest reported more frequent abuse of alcohol per week. Whisky and local liquor were the preferred forms of alcohol. About 2/3rd of the workers were addicted to smoking. Drug abuse was not as common, with only about 1 in 16 workers reporting drug abuse. Oral tobacco chewing was reported by about nearly 1/3rd of the workers.

Table 3: A composite index i.e. vulnerability to HIV/AIDS was formed with the 3 factors: ignorance of HIV/AIDS, sex with commercial sex

worker and non-use of condom on regular basis. The Composite Index was taken as the dependent variable. Any construction worker ignorant of HIV/AIDS or having sex with a commercial sex worker or not using condom on regular basis was considered as vulnerable for HIV/AIDS. Each of the components was given equal weight age. The outcome measure was vulnerability to HIV/AIDS. Multinomial logistic regression analysis was done with marital status, age, religion, level of education, alcohol intake, smoking & oral tobacco consumption as independent predictors & vulnerability to HIV/AIDS as dependent variable. Only alcohol intake and oral tobacco consumption was found to be significantly associated with increased vulnerability to HIV/AIDS. Alcoholics and oral tobacco had a higher likelihood of contracting HIV compared to their non-user counter parts with an adjusted odds ratio of 11.5 and 2.8 respectively.

DISCUSSION

In the present study majority of the subjects were between 25-35 years of age, married (66%) and from hindu families (79.5%) with about 9 % and 8% workers being illiterate and just literate respectively. While about similar number of workers (25% each) had education up to primary, middle & high school respectively. The findings are similar to a study conducted on migrant workers of Kolkata where majority of the migrant workers were aged between 18 to 45 years & 65.4% being married with nearly 30% were illiterates.[9] An Indian study conducted among 21 districts of four states of Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra also reported about 70% of the workers being between 18-49 years of age and about 55% of the migrant workforce were married with nearly 17% of the workers were either literate or just literate and the rest equally distributed among primary, middle and higher school education. The illiterates varied from 1.7% in Tamil Nadu to 31.1% in Andhra Pradesh.[7]

The current study revealed that as many as one third (34.5%) of subjects were unaware about the different modes of transmission of HIV/AIDS. Ignorance was particularly (56.75%) high among study subjects less than 25 years of age and only 9% of the subjects were regularly using condoms. The study conducted in Kolkata reported about more than half (50%) of migrant workers having not heard about HIV/AIDS with about 15.4% reporting use of condoms.[9] An Indian study reported that one out of ten migrant workers had sex with other than spouse.[7] Our study also found about one out of sixteen workers having multiple partners. Of the construction laborers having multiple partners majority of them were young people under 25 years of age. Among those who had sex with a FSW, majority were under 35 years of age. A community based cross-sectional study conducted in Indore in 2011-12 also found that median age of persons with non-regular sex partners was 32 years with a range 18-45 years.[10]

The present study shows a significant difference for awareness on HIV/AIDS transmission with regards to different age groups and the literacy levels of the construction workers. A study conducted in Ethopia in 2012 among construction workers also reported educational status to be a major predictor for risky sexual behaviour. Divorced individuals and younger age for first intercourse were more likely to have high risk sexual behaviour.[11]

In the present study about 58.2% of the workers were consuming alcohol, 68.2% were smokers and 31.8% took oral tobacco. Of those consuming alcohol about 13% had alcohol at least once a week and 10.5% reported more frequent use of alcohol per week. The Indore study by Arora VK et al reported about 29 (6.17%) persons having alcohol every day and 78 (16.60%) persons having alcohol at least once in a week and 108 (22.98%) persons reported consumption of less than once a week.[10] In a study conducted in 2011 in South Africa among employees of safety security sector, workers consuming alcohol were found more likely to engage in risky sexual practice.[12] Construction workers of Mumbai in a study conducted in 2010-11 reported that about 15.8% workers consumed alcohol, 21.6% smoked and 46.1% consumed tobacco in other forms similar to our study of 31.8% taking oral tobacco.[13]

In the present study subjects with alcohol consumption was found to have a significantly higher vulnerability to HIV/AIDS as also with oral tobacco consumption. The findings of the present study are in agreement with the National Behavioural Sentinel Survey among high-risk groups in India, which showed increasing trend of alcohol use (at least once a week) among female commercial sex workers (FCSWs), their clients & men having sex with men (MSMs). A number of these groups reported regular alcohol use before sex (FCSWs 15%, clients of FCSWs 13%; MSMs 36%). The prevalence of alcohol dependence in men with HIV infection was also high. It was also observed that condom use was low in vulnerable

groups, despite knowledge especially when under the influence of alcohol and/or other psychoactive substances.[14]

CONCLUSION

Construction workers display almost similar profile with respect to age & marital status across the country. Alcohol and oral tobacco intake is very prevalent in slums & particularly among the young population. Alcoholics and those consuming oral tobacco have a significantly higher vulnerability to HIV/AIDS compared to others. Intensive Behaviour Change Communication efforts are needed to address the growing menace of alcoholism and tobacco in different forms in the youth among migrant population & subsequent increased likelihood of contracting HIV/AIDS

LIMITATIONS

The study involved a single construction site because of feasibility issues and time constraints. However, since the construction work was being carried out by a reputed firm which has a number of projects running across the city and state, along with 2 more Government Medical colleges at Malda and Murshidabad district and employed similar workers across these different sites. The sample is fairly representative of the construction workers population across the state.

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