

## Original Research Article

# Prevalence, patterns and determinants of smoking among migrant workers in Jammu region of Jammu and Kashmir, India

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## ABSTRACT

**Background:** Rapid urbanization and industrialization is leading a massive exodus of migrant workers from rural to urban areas and from one state to another in search of green pastures. The migrant workers living in unsafe environments, working in hazardous conditions and in absence of family/friends makes them vulnerable to indulge in substance abuse. The present study aimed to estimate the prevalence and patterns of smoking in the migrant workers in Jammu region of J and K, India.

**Methods:** All the migrant workers visiting the OPD of Medicine/ Surgery in Government Medical College, Jammu due to any reason were registered. Only those who gave positive history of smoking were interviewed through a questionnaire survey. Data on demographics and details regarding tobacco use were collected.

**Results:** The prevalence of tobacco use was found to be 43.13%. Pattern of tobacco use was found to be significant in relation to the sex of the respondents ( $p < 0.05$ ). Among other variables associated with smoking, monthly income and literacy levels of the migrant workers were found to be statistically significant ( $p < 0.05$ ).

**Conclusions:** The prevalence and patterns observed in the present study needs to further elucidate the role of various risk factors among the migrant workers. These risk factors can be targeted for health promotion as well as intervention for the amelioration of the current smokers.

**Keywords:** Migrant workers, Smoking patterns, Tobacco use

## INTRODUCTION

As per WHO estimates, smoking causes more than 4 million deaths across the world every year and the number is likely to jump to 8 million by 2030.<sup>1</sup> Currently there are 1.1 billion smokers in the world and 70% of them belong to low income countries. As per estimates, about 450 million may die because of tobacco use in the next five decades.<sup>2</sup> Already WHO has identified tobacco smoking and binge alcohol drinking as the leading risk

factors for premature mortality worldwide.<sup>3,4</sup> As per Global Adult Tobacco Survey, India, 14% of the population above the age of 15 years smokes tobacco.<sup>5</sup> Globally, 1 in 5 deaths in men is due to smoking and for females, these figures are 1 in 20 in the age group of 30-69 years.<sup>6</sup>

Smoking remains the prominent risk factor for premature deaths in our country. Majority of deaths due to smoking in our country occur in the economically productive age

group of 15-59 years.<sup>1</sup> Tobacco use, harmful and addictive, causes fatal and disabling health problems. It is a major cause of lung cancer, COPD, peripheral vascular disease and various mouth and throat cancers. Also, it is a known cause of stroke, coronary heart disease, bladder cancer, aortic aneurysm, perinatal mortality, cervical cancer and leukemia. Use of oral smokeless tobacco leads to precancerous lesions as well as cancers of the oral cavity. Besides these specific diseases, tobacco users usually report a significantly higher risk for general health problems than the non smokers.

Mainly tobacco is used either in the form of smoking (cigarettes, bidis, hukka, chilam) or smokeless tobacco products (pan, gutka, zarda, khaini etc). Use of tobacco is influenced by individual beliefs, social norms and acceptability, availability as well as advertising. Tobacco use is associated with myths like it aids in concentration, reduces anxiety and tension, causes skeletal muscle relaxation and induces feeling of pleasure. As a result of these perceived benefits tobacco consumption is higher among the labour class including migrant workers.

Migrant workers in search of jobs, travel to far off places and other states. These people are usually in economically productive age group and live in cramped spaces. The stress induced by migration itself, unstable living conditions and poor working conditions, is likely to increase the risk of substance abuse, including smoking in this fringe population. There was dearth of literature regarding use of tobacco and its products in migrant workers in the Jammu region of J and K state. It was in this context that authors planned to conduct a study regarding profile, patterns and determinants of tobacco use in migrant workers.

## METHODS

The present cross-sectional study was conducted among the migrant workers visiting the OPD of medicine/surgery department of a tertiary care hospital in Jammu city. The study was conducted over a three-month period from January to March 2018. All the migrant workers visiting the hospital due to any reason and were willing to cooperate were interviewed. The workers who were not willing to give informed verbal consent were left out. Due permission was sought from Institutional Ethical Committee before the study was carried out.

The questionnaire used to collect the data consisted of two parts. The first part was in relation to socio demographic profile of the respondents. The second part enquired about smoking habits, the patterns of smoking, age of initiation of habit and place of first time smoking. The questionnaire was pilot tested on a sample of 20 migrant workers in the OPD who were not part of the final study population. The feedback so obtained from the pilot study was duly incorporated in the questionnaire before it was put to final use.

The data thus collected was tabulated and analyzed. The test of significance used was Chi square and p value <0.05 were considered statistically significant.

## RESULTS

During the course of the survey, a total of 510 migrant workers visited the Medicine/Surgery OPD complex of Govt. Medical College, Jammu and were registered. All of them were enquired about the use of tobacco in one or the other form. Only 220 of the registered migrant workers informed about the use of tobacco in any form. These 220 workers were then interviewed in detail. 68.18% of the respondents were males and rest were females. When these migrant workers were classified on the basis of their original residential state, it was found that 26.36% of the respondents belonged to Bihar and 21.81% belonged to the state of Orissa. On the basis of occupation, majority of them (60%) were engaged as labourers/daily wagers while 20.90 % of them were working as masons. About two third (66.81%) of them had a monthly income of < 10,000 while 31.36% of them were literate up to secondary level (Table 1).

**Table 1: Socio-demographic profile of surveyed migrant population.**

Age group (years)	Males (150)	Females (70)	Total (220)
	N (%)	N (%)	N (%)
<20	28 (77.77)	8 (22.22)	36 (16.3)
20-29	46 (57.5)	34 (42.50)	80 (36.3)
30-39	60 (68.18)	28 (31.81)	88 (40)
40-49	12 (100)	0 (-)	12 (5.45)
>50	4 (100)	0 (-)	4 (1.81)
<b>Resident state</b>			
Bihar	42 (72.41)	16 (27.58)	58 (26.3)
Orissa	32 (66.66)	16 (33.33)	48 (21.8)
Jharkhand	24 (64.86)	13 (35.13)	37 (16.8)
Uttar Pradesh	18 (78.26)	05 (21.73)	23 (10.4)
Other states	34 (62.96)	20 (37.03)	54 (24.5)
<b>Occupation</b>			
Mason	46 (100)	0 (-)	46 (20.9)
Painter	24 (100)	0 (-)	24 (10.9)
Plumber	18 (100)	0 (-)	18 (8.18)
Daily Wager	62 (46.96)	70 (53.03)	132 (60)
<b>Marital status</b>			
Married	132 (70.5)	55 (29.4)	187 (85)
Unmarried	18 (54.5)	15 (45.4)	33 (15)
<b>Monthly income in INR</b>			
<10,000	86 (58.5)	61 (41.4)	147 (66.8)
10-20,000	48 (84.2)	9 (15.7)	57 (25.9)
>20,000	16 (100)	0 (-)	16 (7.27)
<b>Literacy status</b>			
Illiterate	24 (43.6)	31 (56.3)	55 (25)
Primary	36 (65.4)	19 (34.5)	55 (25)
Secondary	56 (81.1)	13 (18.8)	69 (31.3)
Hr. Sec & above	34 (82.9)	7 (17.07)	41 (18.6)

The pattern of smoking in the migrant workers revealed that 63.36% were smoking tobacco as cigarette/bidi while 35.45% were tobacco chewers. Only 6.36% of them were found to be smokers as well as tobacco chewers. The pattern of tobacco consumption was found to be statistically significant in relation to the sex of the respondents ( $p < 0.05$ ). Majority of the respondents had initiated smoking before the age of 20 years but it was not significant statistically ( $p > 0.05$ ). The frequency of smoking on a daily basis was found to be lower side in the female migrant workers than their male counterparts which was statistically significant ( $p < 0.05$ ). Place of first time smoking was workplace, public place and friend's home in case of males while it was primarily workplace and family in case of female migrant workers ( $p < 0.05$ ). Main reasons for first use was enjoyment and sociability in males whereas it was peer pressure and curiosity in case of female workers ( $p < 0.05$ ). In majority of the male workers, first time provider was a friend while it was an acquaintance for the female migrant workers (Table 2).

**Table 2: Patterns and reasons for smoking among the surveyed population.**

Variable	Total	Males	Females	X <sup>2</sup> value	P value
<b>Form of Tobacco consumption</b>					
Smoking (cigarette/bidi)	128	102	26	18.87	<0.005
Tobacco chewers	78	40	38		
Smoking+ Tobacco	14	8	6		
<b>Age at smoking initiation (years)</b>					
<20	138	96	42	3.806	0.14
20-29	76	48	28		
>30	6	6	0		
<b>Cigarette/bidi smoked per day</b>					
<5	85	23	62	108.9	<0.001
5-10	96	88	8		
>10	39	39	0		
<b>Place of first time smoking</b>					
Family	30	12	18	18.73	<0.001
Friend's home	44	38	6		
Public place	26	20	6		
Workplace	120	80	40		
<b>Reasons for first use</b>					
Enjoyment	86	79	7	47.56	<0.001
Curiosity	67	42	25		
Peer pressure	56	21	35		
Sociability	11	8	3		
<b>First time smoking provider</b>					
Friend	121	109	12	60.65	<0.001
Family	26	13	13		
Acquaintance	73	28	45		

When smoking habits were analysed in relation to age, literacy levels and monthly income, the results revealed a significant association with monthly income and literacy

levels ( $p < 0.05$ ) while no statistical association was found with age ( $p > 0.05$ ) (Table 3).

**Table 3: Smoking habits in relation to socio-demographic variables.**

Variable	Smoking	Tobacco chewers	Smoking+ Tobacco chewers	X <sup>2</sup> value	P value
<b>Literacy levels</b>					
Illiterate	37	13	5	24.77	0.0003
Primary	33	18	4		
Secondary	47	20	2		
Hr. Sec and above	11	27	3		
<b>Age (years)</b>					
<20	18	14	4	12.04	0.149
20-29	52	26	2		
30-39	46	36	6		
40-49	8	2	2		
>50	4	0	0		
<b>Monthly income in INR</b>					
<10,000	93	48	06	13.54	0.008
10-20000	28	25	04		
> 20,000	07	05	04		

## DISCUSSION

Out of the 510 migrant workers who were registered during the course of the survey, only 220 reported to be addicted to one or the other form of tobacco. So, the prevalence of smoking was found to be 43.1% among the surveyed migrant workers. Such high levels of smoking could be attributed to low socioeconomic status, hard labour, ignorance and illiteracy among the respondents. In a similar study conducted among construction workers in Mumbai, the authors reported regular consumers of tobacco and alcohol to be 50.48% and 14.65% respectively.<sup>7</sup> On the other hand, Amrutha AM et al, reported 35% prevalence of smoking in migrant workers in Karnataka.<sup>8</sup> Higher prevalence rates to the tune of 85.9% were reported by Ansari ZA et al, among power loom workers in Allahabad, UP.<sup>9</sup> Similarly Wi Xiabo et al, reported smoking prevalence rate of 64.9% in a rural-urban migrant worker study in China where as Mou J et al, reported a smoking prevalence of 19.1% in migrant workers in Shenzhen China.<sup>10,11</sup> In India, Sinha DN et al, reported overall tobacco use among adults (15 years and above) at 74.1% for males and 45% for females in a rural area of Bihar.<sup>12</sup> Increased risk of smoking among migrant workers may be attributed to high stress job. Exposure to chemical and dust is typical job stressor for construction workers which has been demonstrated to positively affect the current smoking.<sup>13,14</sup> Also the wages are low and often delayed, thus further adding to stress.

As far as pattern of smoking was concerned, males were frequently using cigarettes/bidis while tobacco chewing was more common among the female migrant workers. Majority of the respondents in the current study had

initiated smoking before 20 years of age and these results were in agreement with the results reported by Gupta RK et al and Sekhon H et al in the same region in their respective studies.<sup>15,16</sup> The frequency of smoking was found to be lower in the female migrant workers than their male counter parts and the results were consistent with those reported by Gupta RK et al.<sup>15</sup> Enjoyment, peer pressure and curiosity were cited as the main reason for initiating tobacco use among the respondents and the results were in congruence with those reported by Ansari ZA et al.<sup>9</sup> Regarding the first time smoking provider, it was usually a friend or acquaintance and these results were well supported by Ansari ZA et al.<sup>9</sup> Among the variables, literacy levels and monthly income of respondents were significantly associated with smoking patterns. Ansari ZA et al and Gupta RK et al also reported significant association between tobacco consumption and literacy level.<sup>9,15</sup>

Most of the times, migrant workers are separated from their families for a long time and living in unstable conditions, adapting to new environments and looking for employment opportunities all add to the stress among them leading to increased risk of smoking. Also due to little education, they lack both stress management skills and awareness of tobacco control. Hence it is recommended that health care programmes should address health management as an important component of smoking cessation. Also, the policy makers need to provide a tailored, community-based stress management and tobacco control education curriculum with topics like stress risk factor identification and management together with other smoking counter measures.

Since the present study was cross-sectional one, we can't infer causality. Also, the results cannot be generalised due to small sample size and single point estimates. Another potential limitation could be information bias due to self reporting questionnaire.

## CONCLUSION

Among the surveyed migrant workers, 43.1% prevalence of tobacco use in one or other form was found. Males were found to be users of cigarettes/bidis while tobacco chewing was more among female workers. Literacy status and monthly income were found to be significantly associated with the tobacco use.

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