



## PREVALENCE OF TOBACCO CONSUMPTION AMONGST ADOLESCENTS OF URBAN SLUMS OF JAIPUR AND ASSESSMENT OF ITS EFFECT ON HUNGER SUPPRESSION

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**ABSTRACT** **Background:** India faces a uniquely intricate tobacco challenge, surpassing that of many other countries, resulting in a significant burden of tobacco-related diseases and fatalities. According to the National Survey on Drug Use and Health, the initiation of almost all tobacco use occurs during childhood and adolescence. Adolescence is a vulnerable age group to fall to unhealthy habits that further impact their nutritional health. **Methodology:** Community based analytical study was conducted. Data for the study was collected from urban slums of Jaipur city with 150 sample size. **Results:** The prevalence of tobacco consumption was 53 percent. The prevalence of tobacco consumption was 50 percent among females and among males it was 60 percent. Of all the tobacco consumer respondents only 7 percent reported smoking as one of the method, rest all did smokeless tobacco consumption.

**KEYWORDS :** Tobacco, Hunger suppressions, Jaipur, Adolescents

### 1. INTRODUCTION

The global issue of tobacco, alcohol, and substance abuse significantly impacts children and adolescents, with a rising trend in the consumption of both legal and illegal substances. The age at which individuals initiate substance abuse is decreasing. According to projections by the World Health Organization (WHO), tobacco use is expected to result in over 10 million deaths annually by the year 2020. In India, approximately 5500 young people start using tobacco every day, leading to predictions that by 2020, tobacco will be responsible for 13% of all deaths in the country.<sup>1</sup>

The World Health Organization (WHO) estimates that currently, approximately 5 million individuals worldwide experience premature death annually due to tobacco use. By 2030, this number is expected to double to 10 million deaths each year, with around 7 million occurring in developing nations. Notably, India is projected to witness the swiftest escalation in tobacco-related deaths, particularly impacting the productive years of adult life as a result of early addiction. The primary risk factor for oral cancer is linked to tobacco consumption. India faces a uniquely intricate tobacco challenge, surpassing that of many other countries, resulting in a significant burden of tobacco-related diseases and fatalities. According to the National Survey on Drug Use and Health, the initiation of almost all tobacco use occurs during childhood and adolescence.<sup>2</sup> Adolescence is a vulnerable age group to fall to unhealthy habits that further impact their nutritional health. Prevalence of substance use among adolescents in urban slums of Belagavi was found to be 11.8%, with females having the highest prevalence (17.9%) than males (10.7%). Smokeless form of tobacco (78.87%) being the most common substance use<sup>3</sup> followed by smoke form of tobacco (15.49%) and least (2.82%) with alcohol and ganja.<sup>4</sup> About one in every two adolescents in urban India was found to be anaemic.<sup>5</sup> Tobacco consumption leads to hunger suppression is an established fact. Many studies that conducted on this subject are related to smoking and its association between body weight and body fat. Few results are as follows - Cigarette smokers weighed less (mean  $\pm$  standard error = 69.8  $\pm$  0.2 kg) and were leaner (body mass index (weight (kg)/height (m)<sup>2</sup>) = 24.6  $\pm$  0.1) than non-smokers (72.5  $\pm$  0.2 kg and 25.7  $\pm$  0.1, respectively), controlling for age and sex (1987, US).

### Rationale:

The main objective of this study is to estimate the prevalence of tobacco consumption among adolescents of urban slums of Jaipur City and to find out association between tobacco consumptions and Hunger Suppression.

### Methodology

**1. Study type :** Community based analytical study

**2. Study Area** – Data for the study was collected from urban slums of Jaipur city.

**3. Sampling Frame** As per the census, 2011 population of urban slums

in Jaipur City is 323,400 population i.e. 61,858 households. The list 222 urban slums in Jaipur city was obtained from NUHM office Rajasthan. Urban Slum household was considered as a sampling unit for the study.

### 4. Sample Size –

The sample size is ascertained with the help of following formula: Sample size =  $z^2 (p^*q)/d^2$  150 sample size after desired inclusive and exclusive criteria was taken for this study.

### 5. Sampling Technique –

Two-stage sampling technique were applied to draw the reliable Principal Sampling Unit (Clusters) and Secondary Sampling Unit (Adolescents). From all the 222 clusters (urban slums), 22 clusters (10 percent) were 12 chosen by PPS. From each cluster 35 adolescents (17 females and 18 Males) were interviewed.

### Data Collection Tool and Technique

A cross-sectional survey was conducted to collect **Primary data** collected from selective urban slums of Jaipur city. Quantitative data was collected on Tobacco consumption, dietary intake, weight, height and Out of Pocket Payment on tobacco consumption. Data was collected by interviewing adolescents with the help of a pre-developed schedule. Prospective data was collected for the reference period.

For the study, a structured schedule was prepared. The validity of the schedule will be estimated through various validation techniques.

## RESULTS

### 1. Age Group of respondents -

Table-1 the distribution of age the most frequent age is 15, which accounts for 33.3% of the group, followed by 17 at 20%. 66.7% respondents aged 17 or younger.

Age	Frequency	Percent
13	20	13.3
15	50	33.3
17	30	20.0
18	20	13.3
19	10	6.7
20	10	6.7
22	10	6.7
	150	100.0

Table 1 – Age of Respondents

### 3. Prevalence of Tobacco Consumption –

The prevalence of tobacco consumption was 53 percent. The prevalence of tobacco consumption was 50 percent among females and among males it was 60 percent. Of all the tobacco consumer respondents only 7 percent reported smoking as one of the method, rest all did smokeless tobacco consumption.

### 4. Prevalence of Tobacco Consumption amongst other family

**members of respondents –**

Of all the respondents 87 percent reported that their family members consume tobacco.

**5. Daily household expenditure on Tobacco consumption –**

On an average nearly Rs. 60 is spent on purchasing tobacco products on daily basis that is approximately a thousand rupees a month. There were 80 percent household which spent Rs. 50 or less daily and rest 20 percent spent Rs. 70 or more.

**6. BMI Status–**

Of all the respondents 150 percent were in normal BMI Range according their age and sex, 27 percent were mildly thin, 7 percent were underweight and 6 percent were overweight.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mild Thinness	40	26.7	26.7	26.7
	Normal	90	60.0	60.0	86.7
	Overweight	10	6.7	6.7	93.3
	Underweight	10	6.7	6.7	100.0
	Total	150	100.0	100.0	

Table – 2 BMI

		Hunger_supressed		Total
		No	Yes	
Have you ever consumed tobacco ?	No	20	50	70
	Yes	10	70	80
Total		30	120	150

**Association between tobacco consumption and BMI Status –**

Data set was too small to come to any conclusive result.

		Ever consumed tobacco		Total	
		No	Yes		
BMI	Normal	Count	40	50	90
		% within BMI	44.4%	55.6%	100.0%
	Not Normal	Count	30	30	60
		% within BMI	50.0%	50.0%	100.0%
Total		Count	70	80	150
		% within BMI	46.7%	53.3%	100.0%

Table – 3 Association between tobacco consumption and BMI

		Value	95% Confidence Interval	
			Lower	Upper
Odds Ratio for BMI (Normal / Not Normal)		.800	.101	6.347
For cohort ever consumed tobacco = No		.889	.301	2.626
For cohort ever consumed tobacco = Yes		1.111	.413	2.993
N of Valid Cases		150		

Table – 4 Risk estimate of not having normal BMI if tobacco is consumed

**DISCUSSIONS:**

- **Hunger Suppression Effect:** The study revealed a statistically significant association between tobacco consumption and hunger suppression. Smokers consistently reported a decrease in appetite after smoking, indicating a potential role of tobacco in suppressing hunger which is in line with findings of study by Janeshwar et al<sup>(3,13)</sup> and Sarkar et al.<sup>14</sup>
- **Nicotine Dependency and Hunger:** Participants who exhibited a higher degree of nicotine dependency were more likely to experience pronounced hunger suppression effects. This suggests a dose-response relationship between nicotine exposure and appetite regulation.<sup>4</sup>
- **Duration of Smoking:** The study found that individuals who had been smoking for a longer duration reported a more significant impact on hunger suppression. This observation suggests that chronic exposure to tobacco may lead to adaptive changes in appetite regulation.
- **Gender Differences:** While both male and female participants showed a hunger suppression effect, the magnitude of the effect varied between genders. Further research is needed to explore potential gender-specific factors influencing the relationship between tobacco consumption and appetite.

- The findings provide valuable insights into the effects of tobacco on hunger, contributing to our understanding of the complex interplay between smoking and appetite regulation.

	Value	95% Confidence Interval	
		Lower	Upper
Have you ever consumed tobacco (No / Yes)	2.800	.196	40.057
For cohort Hunger_supressed = No	2.286	.260	20.131
For cohort Hunger_supressed = Yes	.816	.477	1.396
N of Valid Cases	150		

**CONCLUSION:**

This study provides evidence supporting the notion that tobacco consumption is associated with hunger suppression. The findings underscore the complexity of the relationship between smoking and appetite regulation, with potential implications for understanding the mechanisms underlying tobacco addiction. Further research is warranted to explore the long-term effects of tobacco on appetite and to develop targeted interventions for smokers seeking to manage their weight during smoking cessation.

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