



## PREVALENCE AND ASSOCIATED SOCIO-CULTURAL FACTORS FOR TOBACCO USE AMONG MALE YOUTH (15-24 YEARS) IN NORTH INDIA

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**ABSTRACT** **Introduction:** Studies suggest an increase in the prevalence of regular tobacco use among urban youth in India. To deal with this problem, a closer look is needed, to know more about magnitude and pattern of tobacco use.

**Material and Methods:** This cross-sectional study was conducted in Kalyanpuri, a resettlement colony in New Delhi, India. The study included 811 males aged 15-24 years residing in the study area at the time of survey. Data was collected by a semi structured interview schedule with the help of systematic random sampling methods.

**Results:** Out of total 811 study subjects, 254 (31.3%) were ever user. It was found that higher age, lower education, nuclear family type, lower socio-economic status and having tobacco used by family member are associated with being ever user and these all associations were statistically significant.

### KEYWORDS :

#### Introduction:

Currently about one-fifth of all worldwide deaths attributed to tobacco occur in India, more than 8,00,000 people die and 12 million people become ill as a result of tobacco use each year. The deaths attributable to tobacco in India are expected to rise from 1.4% of all deaths in 1990 to 13.3% by 2020[1]. It is estimated that 5,500 adolescents start using tobacco every day in India. Thus the prevention of tobacco use in young Indians appears to be one of the single largest opportunities for controlling this ever-growing epidemic. The prevention policies, if successfully executed, would not only prevent the various non-communicable diseases[1] attributed to tobacco use, but also decrease its social and economic burden on the society.

Studies suggest an increase in the prevalence of regular tobacco use among urban youth in India. To deal with this problem, a closer look is needed, to know more about magnitude and pattern of tobacco use. Study included in the two metropolitan cities of Delhi and Chennai[2], found current tobacco use among teenagers was estimated to be 14.7%, of which 7.4% had smoked cigarettes and 10.8% had chewed tobacco. The Global Youth Tobacco Survey (GYTS) 2003, a study among 13-15 year olds, estimated that ever user for tobacco were 10% in Delhi[3]. National Family Health Survey-3 (NFHS-3) conducted in 2005-06, has reported 27% prevalence of tobacco use among 15-24 years age group males in Delhi[4].

While there are many aspects to the problem, tobacco use initiation and continuation among the youth of the nation is clearly one of the most defined horizons. Increased tobacco use by the population can often first be recognized by increased use among young people, since most people begin using tobacco while they are teenagers, become addicted, and thereby become adult users, carrying the wave of increased use into the population over time. In India, like in other developing countries, the most susceptible time for initiation of tobacco is during youth i.e. in the age group of 15-24 years. Some start tobacco use as young as 10 years but the majority of users start using tobacco in 15-24 years age[5]. Tobacco habit is far more prevalent in males in compared to females. This signifies the importance of identifying this age group as prime target for promotion and preventive interventions.

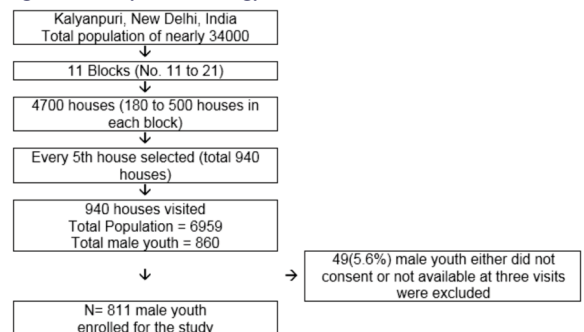
The present study was thus carried out to determine Prevalence and Socio-cultural factors associated with tobacco use in male youth.

#### Materials and methods

This cross-sectional study was conducted in Kalyanpuri, a resettlement colony in New Delhi, India. The study included males aged 15-24 years residing in the study area at the time of survey.

From previous study[6], the prevalence of respiratory symptoms in ever smoker was 13.9%, which would require a sample size of at least 735 subjects to estimate the prevalence of respiratory symptoms with 2.5 % absolute precision and with 95% confidence. We planned to collect data from at least 800 subjects (with non-response rate 10%) [Figure 1].

**Figure 1: Study Methodology**



The area has 11 blocks (No. 11 to 21) with a total population of nearly 34000 (ICDS Survey 2007). The total population of 15-24 years aged males were nearly 4000 (as per population: male ratio in Delhi Census 2001)[7]. There are 4700 houses (180 to 500 houses in each block). Every 5th house (total 940 houses) was selected by the systematic random sampling method in each of the 11 blocks of the area to cover sample size of 800 subjects. From each of the selected houses, all males of 15-24 years aged were selected. Who did not consent or not available at three visits were excluded from the study.

A semi structured interview schedule was designed translated into Hindi and pretested to elicit information on tobacco use and health problems in study subjects.

Subjects were classified in to Tobacco ever users /never (or non) users/ current users as per the definitions used in GYTS (Global youth tobacco survey)[1]. 'Ever users' were defined as anyone who had used tobacco even once in any form at any point in a lifetime. 'Never users' were those who had never used tobacco. 'Current users' were those who had used tobacco in any form during the 30 days preceding the survey and 'past users' were defined as ever users who were not current users.

**Results:**

All the males in the 15-24 years age group in these houses were enlisted. Total population of 940 sample houses was 6959; of these 860 (12.34%) were male youth. Of the 860 enlisted male youth 49(5.6%) either did not consent or not available at three visits were excluded. 811 male youth were enrolled for the study and were interviewed, clinically examined and investigated.

Most of the participants (90.8%) were Hindu, rest were Muslims (7%) and very few were Sikh and Christian (2.2%). Most of the participants were married (83.8%). More than half (53.9%) of the participants live in nuclear family. And mostly (76.8%) belong to Upper Lower socioeconomic status according to Kuppuswami scale.

Out of total 811 study subjects, 254 (31.3%) were ever user. Their tobacco using status and age group-wise distribution is described in Table 1.

**Table 1: Magnitude of tobacco use among study subjects**

Tobacco use	Study subjects		
	15-19 years (n=393)	20-24 years (n=418)	All (n=811)
	No.	No.	No.
Non User	307 (78.1)	250 (59.8)	557 (68.7)
<b>Current User</b>	66 (16.8)	159 (38.0)	225 (27.7)
<b>Past User</b>	20 (5.1)	9 (2.2)	29 (3.6)
<b>Ever User (current user + past user)</b>	86 (21.9)	168 (40.2)	254 (31.3)

Among socio-cultural factors Age, education, family type, socio-economic status and other family member tobacco user were analyzed. It was found that higher age, lower education, nuclear family type, lower socio-economic status and having tobacco used by family member are associated with being ever user and these all associations were statistically significant.

**Table 2: Sociocultural Factors associated with tobacco use**

Sociocultural Factor	Ever User No. (%) (n=254)	Non User No. (%) (n=557)	Chi-square value	p-value
<b>Age</b>				
15-19 years	86 (21.9%)	307 (78.1%)	31.56	<0.001
20-24 years	168 (40.2%)	250 (59.8%)		
<b>Education</b>				
Illiterate, Primary, Middle	132 (36.2%)	233 (63.8%)	7.24	0.007
High School and above	122 (27.4%)	324 (72.6%)		
<b>Family Type</b>				
Nuclear	151 (34.6%)	286 (65.4%)	4.6	0.032
Three generation/ Joint/ Extended	103 (27.5%)	271 (72.5%)		
<b>Socio-economic status</b>				
Lower or Upper Lower	249 (32.8%)	509 (67.2%)	12.62	<0.001
Middle or Upper	5 (9.4%)	48 (90.6)		
<b>Family Member tobacco user</b>				
Yes	151 (37.2%)	255 (62.8%)	13.03	<0.001
No	103 (25.4%)	302 (74.6%)		

**Discussion:**

In present study nearly one third (254, 31.3%) study subjects had used tobacco sometime or other (ever users). Whereas 68.7% (557) of the subjects had never used tobacco. Most of youth who had ever used tobacco continued to use tobacco and had consumed tobacco in last one month (current users-225, 27.7%), only 3.6% (29) were past users. Similar results were observed by other studies also. NHFS 3[4] also reported prevalence of tobacco use as 27%, for the same age group in Delhi. Kumari R et al (2005)[8] in male medical students in Lucknow found current users were 28.8%,

Very high consumption of tobacco was reported by some studies as in Dongre A et al (2008)[8], who carried out a study in 385 adolescents of 15-19 years age group in rural Wardha and found ever users of tobacco

to be as high as 68.3% in boys. High prevalence was also reported by Bala DV et al (2006)[9] in males above 18 years in Gujarat, he found 61.89% ever users and 47.6% current users.

Lower prevalence was also reported in some studies. Bhojani U.M, Chander S.J et al (2009)[10] in 14-19 years in Bangalore reported ever users and current users 15.7% and 5.3%. Low prevalence was also found in Kapil U et al (2004)[11], who reported current users were 2.1% among adolescents in Delhi. Such low prevalence was also reported by Singh V et al (2006)[12] in Delhi in 11-18 years subjects, in which they found ever users were 9.8% and current users were 5.4%. Tsering D (2003-04)[13] in 7-10 class students in West Bengal found ever users were 11.3% in urban area. The lower prevalence in these studies could be due to the lower age of subjects included in these studies.

The age wise tobacco consumption pattern in the present study showed that proportion of tobacco users was more in 20 years and older youth (Table 2). These findings were similar to Sreeramareddy et al (2008)[13] in Nepal and Bala D et al (2006)[9] in Gujarat, where they found that tobacco use in community was more with increasing age. The NFHS-3[4] country data also reported age wise increase in tobacco consumption (28.7% in 15-19 years vs. 52.4% in 20-24 years males). The finding was also in conformity with Nisar, Qadri et al (2005)[14], who had also reported that in the age of <30 years, the odds of being a smoker was found to be 1.41 while in the age group of 30-50 years, the odd ratio was found to be 2.6.

In the present study tobacco consumption was found to be higher among illiterate and educated up to middle classes as compared to those educated up to High School and above (Table-2). This difference between tobacco consumption and educational status was found to be statistically significant as also reported by Bala D et al (2006)[9] in Gujarat, who observed that tobacco use was high in illiterate and in literates with less than seven years of schooling, but decreased significantly with increase in education status after attaining secondary education and more.

Findings were also similar to NFHS 3 (2005-06)[4] country data, showing that tobacco use is more prevalent among men (15-24 years) with no education (66.7%) as compared to men with 12 or more years of education (24.4%).

Shah S M et al (Ghizar, Pakistan 1995)[15] and Chhabra SK et al (2001)[16] in Delhi conducted studies in men aged 18 years and above and reported that men with college level education were less likely to smoke cigarettes and the results were statistically significant. This and other similar observations in many previous studies may be due to the higher level of education and hence better understanding about the problems/adverse effects of tobacco use.

In present study tobacco consumption was found to be higher in nuclear families (30%) as compared to other (25%) and the difference was statistically significant. This may partly be due to presence of an elder person in the family and stricter behavioral norms.

Majority of youth in the study were from lower socio-economic status. Tobacco consumption was found to be more in lower and upper lower socio-economic classes as compared to middle and upper socioeconomic classes (Table 2). The results were similar to NFHS-3[4], according to which more male youth who belong to lowest wealth index (56.2%) were tobacco users as compared to those, who belong to highest wealth index (14.9%).

In a study conducted by Jindal SK et al (2005)[6] in Bangalore, Chandigarh, Delhi and Kanpur found that adjusted odds ratio for subjects belong to low socioeconomic status was 4.21 as compared to 1 for subjects from high socioeconomic status. The findings were similar to the findings of present study.

Current study found that tobacco use by other family member was significantly associated with tobacco use by user (Table 2). Other studies also found significant influence of tobacco use in family members on its prevalence in children. Singh V et al (2006)[17] in Jaipur in 13-18 years subjects, reported that among the children who used tobacco, its use was present in the families of 51 (86.4%) as compared to 42% tobacco use in families of 1208 non user boys.

**References:**

- [1] Sinha DN, Gupta PC, Pednekar M. Tobacco use among students in Bihar (India). *Indian J Public Health* 2004; 48: 111–117.
- [2] Reddy KS, Perry CL, Stigler MH, et al. Differences in tobacco use among young people in urban India by sex, socioeconomic status, age, and school grade: Assessment of baseline survey data. *Lancet* 2006; 367: 589–594.
- [3] Arora M, Reddy KS. Global Youth Tobacco Survey (GYTS)--Delhi. *Indian Pediatr* 2005; 42: 850–1.
- [4] The Ministry of Health and Family Welfare. National Family Health Survey - 3. International Institute of Population Sciences, Deonar, Mumbai. Epub ahead of print 2007. DOI: 10.1016/S0140-6736(05)17806-4.
- [5] World Health Organization, Adolescent health at a glance in South-East Asia Region. World Health Organization, South-East Asia Regional Office [http://www.searo.who.int/entity/child\\_adolescent/topics/adolescent\\_health/adolescent\\_health\\_at\\_glance/en/](http://www.searo.who.int/entity/child_adolescent/topics/adolescent_health/adolescent_health_at_glance/en/) (2007, accessed 26 March 2018).
- [6] Jindal SK, Aggarwal AN, Chaudhry K, et al. Tobacco smoking in India: prevalence, quit-rates and respiratory morbidity. *Indian J Chest Dis Allied Sci* 2006; 48: 37–42.
- [7] Delhi Government Population Census 2001 <http://des.delhigovt.nic.in/census2001.htm>. (2001).
- [8] Kumari R, Nath B. Study on the use of tobacco among male medical students in lucknow, India\*. *Indian J Community Med* 2008; 33: 100–3.
- [9] Bala D V, Bodiwala ILA, Patel DD, et al. Epidemiological Determinants of Tobacco Use in Gujrat State, India <http://medind.nic.in/iaj/t06/t3/iaj06i3p173.pdf> (2006, accessed 26 March 2018).
- [10] Bhojani UM, Chander SJ, Devadasan N. Tobacco use and related factors among pre-university students in a college in Bangalore, India. *Natl Med J India* 2009; 22: 294–297.
- [11] Kapil U, Goindi G, Singh V, et al. Consumption of tobacco, alcohol and betel leaf amongst school children in Delhi. *Indian J Pediatr* 2005; 72: 993.
- [12] Singh V, Pal HR, Mehta M, et al. Tobacco consumption and awareness of their health hazards amongst lower income group school children in National Capital Territory of Delhi. *Indian Pediatr* 2007; 44: 293–295.
- [13] Tsering D, Pal R, Dasgupta A. Tobacco use among high school students of west bengal, India. *Indian J Community Med* 2008; 33: 207–8.
- [14] Nisar N, Qadri MH, Fatima K, et al. A community based study about knowledge and practices regarding tobacco consumption and passive smoking in Gadap Town, Karachi. *JPMA. The Journal of the Pakistan Medical Association* 2007; 57: 186–8.
- [15] Shah SM, Arif AA, Delclos GL, et al. Prevalence and correlates of smoking on the roof of the world. *Spec Commun* 2001; 10: 4.
- [16] Chhabra SK, Rajpal S, Gupta R. Patterns of smoking in Delhi and comparison of chronic respiratory morbidity among beedi and cigarette smokers. *Indian J Chest Dis Allied Sci* 2001; 43: 19–26.
- [17] Singh V, Gupta R. Prevalence of tobacco use and awareness of risks among school children in Jaipur. *J Assoc Physicians India* 2006; 54: 609–612.