

Tobacco Use among School Students in National Capital Territory of Delhi

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Abstract

The progressive increase in the consumption of tobacco amongst adolescents is emerging as a complex and multidimensional problem. It continues to occupy a premier position as public health concern in almost all countries. Tobacco is the most common hazardous substance because it is legally available, heavily promoted and widely consumed by our future generations.

Objective: The objective was to study the prevalence and influencing factors of tobacco use among adolescent students in NCT of Delhi.

Materials and methods: Descriptive research design has been taken for the present study. The study seeks to describe the factors that could influence the pattern of tobacco consumption among school students. "Non Probability Sampling" has been used for selection of sample, lack of availability of coeducational schools in every district and permission of principals and parents for the study were excluded the use of probability sampling for the selection of sample.

Setting: One government co-educational school from every 12 districts of education board of Delhi were chosen. 50 students from each school and there were 600 adolescent students aged 14-18 years.

Statistical analysis: Statistical analysis was done with help of SPSS.

Results: Overall prevalence of consumption of tobacco among boys was 50.2% and among girls it was 23.3%. The mean age of initiation of tobacco use was 12 years. Majority (78%) of the students reported that they do not know about any programme or law on Tobacco. Only few (22%) students talked about the knowledge of ban for selling of tobacco to the minor. Stress and anxiety (20.7%), was more prevalent among tobacco users students than their counter part. Tobacco users also found problem of sweating (18.7%), poor relations (14.9%) and habit of telling lie (11.2%). They also found much weaker with loss of appetite, followed by 29.9% having cold and cough problem, 25.8% fever/ body ache.

Conclusion: Consumption of tobacco is an emerging social and public health problem and there is a need to sensitize parents, teachers and students towards the ill-effects of tobacco.

Keywords: Ill effects of tobacco; Tobacco consumption

Introduction

It is seen that smoking and drinking become symbols of maturity and independence, among the young people. For them, the use of tobacco provides an opportunity for taking part in a behavior that defies established social norms. Boys are more likely than girls to smoke, drink, and use drugs. This holds true in developing countries too, although rates for girls are increasing faster. The behaviors of the important people in the immediate environment of the adolescents whom they may look up to as role models are likely to influence the activities of the adolescents.

The World Health Organization (WHO) has defined 'adolescents' as persons in the 10 to 19 years age group. People in the age group of 10-19 years, comprise 22% of the Indian population. According to WHO (2009) tobacco consumption, in India, tobacco use will continue to increase at 2.4 percent per annum and most of the new users will be India's school children and those who begin to use in their mid-teens are likely to get lung cancer by the time they are in their mid-thirties. Further, tobacco may also give these students hypertension, heart disease, recurrent lung infections, ear infections, asthma, cough and poor grading (ICMR, 2006).

The present study sought to cover the patterns of tobacco consumption in terms of forms and prevalence of tobacco consumption among students, exposure to tobacco, frequency of consumption and also their awareness level.

Adolescence is generally divided into three stages of development: early (10-13 years), middle (14-15 years), and late adolescence (16-19 years) stages. It is usually seen that risk-taking behaviors begin to manifest from the middle adolescence onward. Hence, the present study focused on the middle and late stages of adolescence. The subjects were thus chosen from the corresponding age group of 14-18 years.

Materials and Methods

Non Probability sampling was adopted for selection of units of the study. The Education Board of Delhi is divided into 12 districts. Each district has various co educational schools, from these; one co-educational senior secondary school was selected for the purpose of the study. The schools were selected on the basis of consent by school principal and parents for the data collection. A total of 600 students (50 students from each school) were covered under the preview of sample.

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Separate tools were framed for each category of respondents to reduce the non-response rate. The framed tools were thoroughly pre tested on 25% of the chosen sample to test data collection capability and quality of the data and according to it the questions were modified before formal data collection.

Consent

Written permission and consent from the Principals were obtained prior to conducting the study in their school. A written consent was also obtained from the parents and few parents were given the verbal consents.

Inclusion/Exclusion Criteria

All the students in the selected classes, present on the day of the survey, were eligible to participate, allowing for anonymous and voluntary participation. At the time of data analysis, the forms of respondents who had stated their age to be either less than 14 years or more than 19 years were excluded from the analysis.

Statistical Analysis

A pretested, self-administered questionnaire included both close and open ended questions were used in the study. The information collected was converted into a computer-based spreadsheet. Statistical analysis comprised calculating proportions of tobacco users and cross-tabulation with the chi-square test (Fisher's exact test being applied, wherever applicable). Correlation was applied to analyze the relationship between tobacco use and various independent variables under study.

Results

The age of the respondents ranged from 14 to 18 years. Overall, among the 600 respondents, there were 430 (71%) males and 170 (28%) females. Three-fourths belonged to a joint family and the remaining were part of a nuclear family.

It was seen that out of the total sample of 600, 49% students were regular user of tobacco in any form, 32% experimented tobacco once or more in their lifetime but did not consume it regularly and only 18% had never used tobacco in any form. It needs to be added that the present study shows higher prevalence of tobacco consumption among school children (Table 1).

From the row wise percentage it was found that 31.5% of the respondent's father used drugs (tobacco, alcohol, bhang etc) out of which 72% students consume tobacco. 4.5% responded about their mothers' addiction (Kheni, Guttka, Alcohol etc.) in which 72% students were found to be regular user of tobacco, and 19.5% reported that both their parents are consuming drugs out of which 73% students are consuming tobacco. On the other hand 22% reported about the addiction of their siblings out of which 74% students reported tobacco consumption. An interesting fact was found out that 75% regular users were those whose parents were not consuming any type of drug. On the other hand the study also shows that 72% students were not taking any tobacco whose parents not consuming any type of drug (Table 2).

Tobacco use	Total No. of Students	%
Regular user	294	49
Experiment once / more	195	32.5
Never used	111	18.5
Total	600	100

Table 1: Distribution of students according to their tobacco use.

The data regarding the age of initiation of tobacco use among regular users, in any forms has been given in Table 3, the mean age of initiation of tobacco use was 12 years which is in contrast to the earlier study conducted in Delhi (Umesh, 2006; Bhojani, 2009) which reported that most of the regular users initiate at the age of 15 years. This clearly shows that the age of initiation is coming down from 15 years to 12 years. The above data also shows that there were students (8%) who start tobacco between the age of 7 to 9 years or less (Table 3).

In the above table, the calculated P value is <00.5 which clearly shows that there is significant association between the age of initiation and addiction of tobacco among students. The study observed that as the age increase the chance of regular use is high as the students who start tobacco at early age (10 years to 15 years) are consuming regularly in the comparison of other. The study also reveals that by the age of 16-17 year very less number (3.4%) of students initiate tobacco as at this age majority of the students already become addicted to tobacco. Hence it has been observed that lesser is the age the higher chance of regular use. Therefore the anti tobacco programme should be focus on the early age of the students so that they can be aware of the ill effect of tobacco before the onset of addiction.

The distribution of study subjects according to the consumption of different forms of tobacco is depicted in Table 4. The data shows that from the different forms of tobacco use, cigarette smoking was 36%, and both gutkka (chewing tobacco) and cigarette smoking was found to be 25.5% among students. Only chewing tobacco was found among 21.7% students. Other forms like smoking beedi, cigar, snuff and chewing pan with tobacco was found among 16% students (Table 4).

A large gender gap in tobacco consumption existed in the 1990s (NHFS-2,1989-99), with 4.4 percent of male and only about 0.2 percent of female smoked but now this gap has narrowed with increase of 61.3% of males and 38.9% of female students smoking cigarettes. The study shows that the rate of tobacco, especially cigarette smoking among both the genders is much higher. Tobacco use by adolescent (especially by girls) is not culturally acceptable in Indian society. Beyond these

Addicted Family Member	No. of regular users of tobacco	No. of non users Students	No. of Total Students
Father	91	35	126
Mother	13	5	18
both parents	57	21	78
Sibling	66	23	89
Parents who are not consuming any drug	67	222	289
Total	294	306	600

Table 2: Status of drug Addicted family members and drug addicted students.

Age of initiation	Regular user	In %
7 years or less	2	.6
8 to 9 years	6	2
10 to 11 years	79	26.8
12 to 13 years	102	34.6
14 to 15 years	91	30.9
16 to 17 years	10	3.4
18 years and above	4	1.3
Total	294	100

Table 3: Distribution of students according to the age of initiation of tobacco (N=294).

cultural norms, the present study demonstrated that both girls and boys are taking tobacco without any hesitation as gender gap in tobacco use is narrowing (Table 5).

The above table shows that the majority (65%) of the students using tobacco more than once in day and 20% reported about once in a day in any form. Whereas, only 15% students having twice or thrice in a week. Another interesting fact was found that majority of the students are consuming tobacco for more than 3 years, which means by the age of 18 years most students using tobacco more than 3 years. These trends indicate the incidences of oral cancer are increasing among younger generation as studies shows that regular use of tobacco leads to oral cancer in the latter stage (WHO, 2009).

The early age of initiation underscore the urgent need to intervene and protect this vulnerable group from falling prey to this addiction. The below Table 6 show that the finding of the present study is similar to the earlier studies (Umesh, 2006; Kumar, 2010) which found that media was one of the important factor to influence students towards the tobacco consumption. The most common influential factor cited for children to start using tobacco are advertisements from various media outlets (TV, Videos, Movies, etc.) i.e. 39%, 27.2% talked about their friends while 19.7% students were introduced to tobacco by their family members / relatives and 13.9% also reported by their school staffs. However few studies reported peer pressure as a most influential factor to lead tobacco use among students (Table 6 and 6.1).

On the causes of regular use of tobacco, the present study found that stress (37.7%) was the most common cause of tobacco use by the regular user students. Other reasons included consuming for "to show themselves as a grown up individual (21.7%), friend's/ peer pressure (15.6%), curiosity (11.5%), to increase self confidence (9.5%) and any other reason such as weight gain, taller height, tooth ache (3.7%) etc. Table 6.1 clearly indicates that stress has become the major problem of younger generation which also an important factor leading to tobacco consumption among students.

Medical studies like Arena, 2008, Venita 2009 and Ronald 2010, show that students who use tobacco have respiratory illness, short in height and less successful at school. The data of the present study

Different Forms of Tobacco	(Current user of tobacco in last one year)		
	Male	Female	Total
Cigarette	65	41	106 (36)
Cigarette&Gutkka	56	19	75 (25.5)
Gutkka	46	18	64 (21.7)
Bidi	10	5	15 (5.1)
Cigar/ hukka pipe	9	6	15 (5.1)
Pan Masala with tobacco	9	3	12 (4)
Khaini/zarda/snuff	6	1	7 (2.3)
Total	201	93	294

Table 4: Most common forms of tobacco among students.

Years of tobacco use	N	%
For less than one years	8	2.7
For one year	30	10.2
For two years	34	11.5
For three years	66	22.4
More than three years	156	53
TOTAL	294	100

Table 5: Students according to the years of tobacco Consumption.

First influence to Tobacco (By whom)	Regular user	%
Friends	80	27.2
Family / relatives	58	19.7
Media (TV, Videos or movies etc.)	115	39.1
School Staff	41	13.9
Total	294	100

Table 6: Distribution of students by whom they got to know about tobacco.

Physical problems during adolescents	N, addicted students	%
Lose weight/Loss of Appetite Weakness	89	30.2
Fever/ Body ache	76	25.8
Cold/Cough	88	29.9
Gain weight	20	6.8
Any other	10	3.4
No difference	11	3.7
Total	294	100

Table 6.1: Distribution of students according to their causes of regular use of tobacco.

also showed that tobacco user students were much prone to physical problems in the comparison of other. However, few non users' students also reported some physical problems such head ache, loss of memory etc. (Table 7).

Table 7 shows that 30.2% of the addicted ones are much weak with loss of appetite, followed by 29.9% having cold and cough problem, 25.8% fever/ body ache, 6.8% talked about gaining of weight and rest of other (3.4%) have headache, eye ache etc. All the students were asked about their health condition, it is found that most of the addicted students reported about the weakness and loss of appetite among all students. It is found that majority of the addicted students (30.2%) of the children believed that consumption of tobacco makes effects on their appetite, 29.9% addicted students reported about frequent cold and cough and 25.8% felt about body ache and fever.

A very small proportion (6.8%) of study subjects had this notion of weight gain after consumption of tobacco. However 3.7% reported no differences after consumption of tobacco and 3.4% talked about the head ache, eye ache, and stomach ache etc.

The studies showed that use of tobacco acutely elevates the blood pressure and this effect may be prolonged for 2 hours. In western countries epidemiological studies have shown that the tobacco users tent to get more hypertension, anxiety and short memory (Table 8).

The present data also shows that students reported different problems after the tobacco consumption. It was found that students who take tobacco having the tendency of stress and anxiety (20.7%), sweating (18.7%), poor relations (14.9%), and also theft, lie (11.2%) (Table 9).

The earlier study Mukherjee, 2009 revealed that 20% students reported about the desire to take other drug after tobacco intake in Punjab. Whereas it was precise from the above table that desire for other drug consumption was 45.2% exaggerated with tobacco intake, while, 37.7% of the study subjects reported about no impact of tobacco intake on the other drug intake. The study shows that tobacco is a gateway of consumption of other drugs which make their health more prone towards various diseases (Table 10).

Reason for first use of Tobacco	N	(%)
To reduce stress	111	37.7
To show as a grown up individual	64	21.7
Friend's pressure	46	15.6
Curiosity	34	11.5
To increase self confidence	28	9.5
Any other reason	11	3.7
TOTAL	294	100

Table 7: Health problems of students (N-294).

Psychological/ behavioural effect of tobacco among regular users	N, addicted students	%
Anxiety/ depression/hypertension	56	19
Habit of theft	35	11.9
Telling lie	33	11.2
Sweating	55	18.7
Poor relationship with family and friends	44	14.9
All the above	61	20.7
No difference	10	3.4
Total	294	100

Table 8: Psychological and behavioural problems among regular users (N-294).

Desire of drinking alcohol after consuming tobacco	N	(%)
Consume other drug after tobacco consumption in any form	133	45.2
No desire to take other drug after Consume tobacco in any form	111	37.7
Cannot say/ not responded	50	17
TOTAL	294	100

Table 9: Desire of drinking alcohol/other drugs after tobacco consumption.

Do you know any Anti tobaccoprogram. / law on tobacco	Students, %
Yes	22
No	78
Total	100

Table 10: Awareness of tobacco programme among students.

An attempt was made to find out the awareness of school students about the Anti-tobacco programme or law. Majority (78%) of the students reported that they do not know about any programme or law on Tobacco. Only few (22%) students talked about the knowledge of ban for selling of tobacco to the minor. The study clearly reveals that there is an urgent need to have disseminated the information about legal programmes among the school children.

Conclusion and Discussion

The results of the present study conducted in NCT of Delhi indicate that the overall prevalence of consumption of tobacco was 49% in which 50.2% are boys and 23.3% are girls. The mean age of initiation of tobacco use was 10-13 years. Majority (78%) of the students reported that they do not know about any programme or law on Tobacco. Only few (22%) students talked about the knowledge of ban for selling of tobacco to the minor. It was found that students who take tobacco having the tendency of stress and anxiety (20.7%), sweating (18.7%), poor relations (14.9%), and also theft, lie (11.2%). 30.2% of the addicted ones are much weak with loss of appetite, followed by 29.9% having cold and cough problem, 25.8% fever/ body ache, 6.8% talked about gaining of weight and rest of other (3.4%) have headache, eye ache etc.

It was found that 37.4% of the students spent more than Rs. 20 in a day on the consumption of tobacco. Only 29.9% of the students spent less than ten rupees in a day for tobacco consumption. When they were asked about the source of money, 36% students mentioned about their pocket money, 28% borrowed money from someone, 22% stole from home/outside and 10% sold their own things.

The factors for regular tobacco use were found to be stress, family relations and curiosity. Media was one of the major influencing factors for first introduction to tobacco. Majority of the students (82.1%) were not aware about the ill effects of tobacco and it was also observed that most of the students did not have knowledge of laws related to tobacco. The study found that factors like family income, family relation, school environment, proximity to store/shop/vendors, role of media, stress, parents and teachers lack of knowledge and awareness of ill effects, etc. influenced the prevalence and consumption pattern of tobacco to maximum extent. Hence, it can be concluded that the consumption of tobacco is an emerging social and public health problem and there is a need to sensitize parents, teachers and students towards the ill-effects of tobacco [1-46].

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