



A CROSS SECTIONAL COMPARATIVE STUDY – PREVALENCE OF TOBACCO CONSUMPTION IN SCHOOL GOING ADOLESCENT BOYS IN URBAN AND RURAL AREA.

Dr. Dhananjay Kumar Singh*

Assistant Professor, Dept. of Community Medicine, Heritage Institute of Medical Sciences, Varanasi. (U.P.) *Corresponding Author

Dr. Shireen Sharma

Flight Lt (Dr.) Shireen Sharma, Graded specialist, Jamnagar. (Gujarat)

ABSTRACT

Background: Tobacco abuse is one of the biggest curses that modern society has come across. It is not confined to any one country or region alone, but has widely afflicted the globe.

Objectives: 1. To study & compare the prevalence of tobacco consumption in school going adolescent boys in urban & rural area. 2. To compare the epidemiological factors influencing tobacco consumption behavior in adolescent boys. 3. To assess the knowledge of students about tobacco hazards.

Setting & Design: Community based cross-sectional study.

Methods & Materials: Data was collected through pretested semi-structured self-administered questionnaire given to students by the investigators. Data collected were analyzed using statistical package for social sciences (SPSS) 17.0 software.

Results & Conclusions: In the present study it was observed that more number of subjects belonged to nuclear families, 217 (61.0%) compared to Joint families, 139 (39.0%). Over all ever user prevalence of tobacco use was 16.9% and never user was 83.1%. The ever use prevalence was higher in urban area (17.5%) than rural area (16.2%). Prevalence of tobacco user adolescent boys was 16.9%. Overall, smokeless tobacco use (11.6%) was higher than smoking type (5.4%). Use of smoking type was higher in urban area (6%) than rural area (4.6%). Smokeless and other tobacco use was almost equal in rural area (9.9%, and 1.7%) and urban area (10.4% and 1.1%)

KEYWORDS : Tobacco, Urban, Rural, Adolescent.

Introduction:

Tobacco use is a major worldwide public health problem. Tobacco use is one of the chief preventable causes of death & illness in the world. Tobacco is estimated to have killed 100 million people in the 20th century & continues to kill 5.4 million people every year and this figure is expected to rise to 8 million per year by 2030, 80% of which will occur in the developing country. It has been estimated that an average of 5.5 minutes of life is lost for each cigarette smoke. In India tobacco use is estimated 0.8 million deaths annually. Nearly 2200 Indians die each day of tobacco-related diseases. The high smoking-related health care costs are particularly worrisome for low-income countries that can least afford the health care burden, where the tobacco epidemic is expected to account for 70% of all tobacco-related deaths in the next 20 to 30 years. The early age of initiation underscores the urgent need to intervene and protect this vulnerable group from falling prey to this addiction. The risk of tobacco use is highest among those who start early and continue its use for a long period. Smokers who have taken up the habit in adolescence and continue to smoke regularly have a 50% chance of dying from tobacco-related disease. Half of those persons will die in middle age, thereby losing nearly 22 years of normal life expectancy. With prolonged smoking, smokers have a death rate about three times higher than non-smokers at all ages, starting from young adulthood²⁶.

Aim & Objectives:

1. To study & compare the prevalence of tobacco consumption in school going adolescent boys in urban & rural area.
2. To compare the epidemiological factors influencing tobacco consumption behavior in adolescent boys of urban & rural area.
3. To assess the knowledge of adolescent students about tobacco hazards.

Material & Methodology:

1. It is a cross sectional study conducted among adolescents boys (8th, 9th, and 10th standard students) of school in urban & rural area of Maharashtra. Universal sampling technique was used & 356 students were included in the study. Permission was taken from the Principle/Headmaster of school and also from class teacher to include students in the study. Approval for conduction of study was taken from ethical committee of the medical college.

2. Pre validated semi-structured questionnaire was prepared according to the objectives of study.
3. Study subject were identified as per exclusion and inclusion criteria.
4. The anonymous self-administered questionnaire was distributed to the students of selected classes after explaining the purpose of the study and the instructions to fill in the questionnaire. Considering the sensitivity of the issue, the school authority was requested not to be present in the class during the filling in of the questionnaire.
5. One-class period (approx. 45 min) was provided to fill in the questionnaire. Students were assured that the information they provided would remain confidential and thus were encouraged to be truthful in their responses. They were informed that their participation was completely voluntary and they could quit at any time.

Data collected were analyzed using statistical package for social sciences (SPSS) 17.0 software.

Results:

Table 1: Distribution of students according to age and locality

Age in year	Rural	Urban	Total
13	11(6.4)	15(8.2)	26(7.3)
14	34(19.7)	36(19.7)	70(19.7)
15	59(34.1)	72(39.3)	131(36.8)
16	44(25.4)	49(26.8)	93(26.1)
17	21(12.1)	11(6.0)	32(9.0)
18	4(2.3)	0(0)	4(1.1)
Total	173(100)	183(100)	356(100)

*Figures in parenthesis indicate percentage

In the present study the mean age was as young as 15 year (S.D \pm 1) and most of the study participants were in the age 14,15,16,17 years in both rural (34,59,44,21) and urban (36,72,49,11) areas respectively.

Table 2: Distribution of students according to type of family by locality

Type Of Family	Rural	Urban	Total
Joint	69(39.9)	70(38.3)	139(39.0)
Nuclear	104(60.1)	113(61.0)	217(61.0)
Total	173(100)	183(100)	356(100)

*Figures in parenthesis indicate percentage

In the present study it was observed that more number of subjects belonged to nuclear families, 217 (61.0%) compared to Joint families, 139 (39.0%). The proportion of nuclear and joint families was almost equal in urban and rural area.

Table 3: Distribution of students according to Parent literacy level and locality

Parent Literacy level	Rural	Urban	Total
Father			
Illiterate	13(7.5)	2(1.1)	15(4.2)
Pri.School	24(13.9)	5(2.7)	29(8.1)
Sec.School	76(43.9)	40(21.9)	116(32.6)
College	47(27.2)	90(49.2)	137(38.5)
Post-Graduation	13(7.5)	46(25.1)	59(16.6)
Total	173(100)	183(100)	356(100)
Mother			
Illiterate	10(5.8)	10(5.5)	20(5.6)
Pri.School	63(36.4)	32(17.5)	95(26.7)
Sec.School	81(46.8)	77(42.1)	158(44.4)
College	19(11.0)	52(28.4)	71(19.9)
Post-Graduation	0(0)	12(6.6)	12(3.4)
Total	173(100)	183(100)	356(100)

*Figures in parenthesis indicate percentage

In the present study it was observed that Illiterates Parent were about 15,20 (4.2,5.6%) and the proportions of those who attended primary school, High school, and college were 8.1%, 32.6% and 38.5%(Father) and 26.7%,44.4% and 19.9%(mother) respectively.Only 16.6%(father) and 3.4% (mother) was completed their post-graduation. The percentage of illiterates father was higher in rural area (7.5%) than in urban area (1.1%).

Table 4: Distribution of pocket money (weekly) given to students by locality.

Pocket Money(weekly) In Rs	Rural	Urban	Total
0-20	58(33.5)	60(32.8)	118(33.1)
21-50	94(54.3)	80(43.7)	174(48.9)
51-100	20(11.6)	39(21.3)	59(16.6)
>100	1(0.6)	4(2.2)	5(1.4)
Total	173(100)	183(100)	356(100)

*Figures in parenthesis indicate percentage

The present study showed that majority of study participant got 0-20,21-50 Rs, in rural(58,94) and urban (60,80) area respectively. Few participants got more than 100rs pocket money(weekly).

Table 5: Prevalence of Never use and Ever use of tobacco among male students by locality

Tobacco Use	Rural	Urban	Total
Ever Use	28(16.2)	32(17.5)	60(16.9)
Never Use	145(83.8)	151(82.5)	296(83.1)
Total	173(100)	183(100)	356(100)

*Figures in parenthesis indicate percentage

Chi-square $X^2=0.107$ df- 1 Sig P- 0.743

In the present study, over all ever use prevalence of tobacco use was 16.9% and never use was 83.1%. The ever use prevalence was higher in urban area (17.5%) than rural area (16.2%).over all prevalence of tobacco user was 16.9%. However this was not statistically significant.

Table 6: Prevalence of Tobacco use among students according to Locality and Type of Tobacco.

Type Of Tobacco	Rural	Urban	Total
Smoking			
Cigarette	3(1.7)	9(4.9)	12(3.4)
Bidi	5(2.9)	2(1.1)	7(2.0)
Smokeless			
Khaini	6(3.5)	7(3.8)	13(3.7)
Gutkha	11(6.4)	12(6.6)	23(6.5)
Other(Masheri)	3(1.7)	2(1.1)	5(1.4)
No	145(83.8)	151(82.5)	296(83.1)
Total	173(100)	183(100)	356(100)

*Figures in parenthesis indicate percentage Smoking vs smokeless, Chi-square $X^2=0.2324$ Sig.p- 0.629

Overall, smokeless tobacco use (11.6%) was higher than smoking type (5.4%). Use of smoking type was higher in urban area (6%) than rural area (4.6%). Smokeless and other tobacco use was almost equal in rural area (9.9%, and 1.7%) and urban area (10.4% and 1.1%). The difference in tobacco use by type and locality was not significant.

Table 7: Distribution of tobacco use male students according to source of tobacco and locality (N = 60)

Source of tobacco	Rural	Urban	Total
Buy myself at store	13(46.4)	14(43.8)	27(45.0)
Friends/someone else gives them to me	9(32.1)	12(37.5)	21(35.0)
Take them from my mother, father or siblings	6(21.5)	6(18.7)	12(20.0)
Total	28(100)	32(100)	60(100)

*Figures in parenthesis indicate percentage

Chi-square $X^2=0.1998$ df- 2 Sig.p- 0.9049

It was observed in the present study that most of the study subjects buy tobacco himself i.e 27(45.0%) followed by 21(35.0%) got tobacco from friends/someone else. 12(20%) took tobacco from their parents or siblings.it was statistically not significant.

Table 8: Knowledge of health hazards of tobacco use among male students by locality.

Knowledge about Hazards Of Tobacco Use	Rural	Urban	Total
Yes	157(90.8)	174(95.1)	331(93.0)
No	16(9.2)	9(4.9)	25(7.0)
Total	173	183	356

*Figures in parenthesis indicate percentage

Chi-square $X^2=2.554$ df- 1 Sig.p- 0.110

From the above table it is seen that 331 (93%) study subjects out of 356 in rural and urban area knew that tobacco use was hazards, whereas only 25 (7%) not having knowledge. The difference of knowledge about hazards of tobacco use among male students by locality was not statistically significant.

Table 9: Knowledge of Passive Smoking among students by locality.

Passive Smoking	Rural	Urban	Total
Harmful	90(52.0)	110(60.1)	200(56.2)
Not Harmful	50(28.9)	40(21.9)	90(25.3)
Don't Know	33(19.1)	33(18.0)	66(18.5)
Total	173(100)	183(100)	356(100)

*Figures in parenthesis indicate percentage Harmful vs not harmful Chi-square $X^2= 2.76$ Sig.p-0.09.

Over all 56.2% knew that passive smoking was harmful, 25.3% thought it was not harmful and 18.5% did not know whether it was harmful or not. A higher proportion of urban users (60.1%) knew

that it was harmful compared to rural users (52.0%). A higher proportion of rural users said 'not harmful' (28.9%) compared to urban users (21.9%). About 19.1% of rural users did not know whether passive smoking was harmful or not compared to 18.0% in urban users. This difference in knowledge about passive smoking by locality was not significant.

Conclusion:

A Cross sectional study - Prevalence of tobacco consumption was carried out in school going adolescent boys in urban & rural area of Metropolitan city. A total of 356 subjects were interviewed with the objectives of comparing & providing prevalence and patterns of tobacco use in urban and rural area, to study the role of various epidemiological factors influencing tobacco consumption. The overall ever use prevalence of tobacco use was (16.9%) and never use was (83.1)%. The ever use prevalence was slightly higher in urban area (17.5%) than rural area (16.2%). Prevalence was higher among Hindu's, OBC, Other, low literacy level of parents in rural area, high literacy level of parents in urban area, nuclear families and among those who had tobacco using friends or families. The high proportion of users with onset below 13 years of age, were in the 13-18 years age-group. Overall (93%) study subjects knew that tobacco use was hazardous, whereas only 25 (7%) not had knowledge. Out of 28 tobacco user in rural area 24 (85.7%) had knowledge regarding harmful effect of tobacco use and in urban area out 32 tobacco user 31 (96.9) knew the harmful effect of tobacco use.

References:

1. Ramakrishna G.S., Sarma P and Thankappan K.R., Tobacco Use among Medical Students in Orissa, Natl Med J India, 18, 285-99 (2005).
2. Reddy K.S. and Arora M., Tobacco Use among Children in India: A Burgeoning Epidemic, Indian journal of Paediatric, 42, 757-761 (2005).
3. Jacobson B. Smoking & Health. A new generation of Campaigners. Br Med J. 1983; 287: 483-4.
4. Global Youth Tobacco Survey (GYTS) India, 2009.
5. Vinita Singh, Hem Raj Pal, Manju Mehta 1, S.N. Dwivedi 2 and Umesh Kapi, Pattern of Tobacco Use Among School Children in National Capital Territory (NCT), Indian Journal of Pediatrics, Volume 74—November, 2007.
6. WHO. World Health Report 2001. WHO, Geneva, 2001.
7. Soni and Raut, Tobacco Use among School Students in National Capital Territory of Delhi J Alcoholism Drug Depend 2013.
8. World report on the global tobacco epidemic, The MPOWER package, Geneva: World Health Organization; 2008.
9. Sinha, D.N, Gupta P.C & Pedenekar, M.S (2003). Tobacco use in rural area of Bihar, India Jcommun, Med 25, 167-70.
10. Quarterly Newsletter (2009). National Institute of Health & Family Welfare, 11, 2 April – June.
11. Ramakrishna G.S., Sarma P and Thankappan K.R., Tobacco Use among Medical Students in Orissa, Natl Med J India, 18, 285-99 (2005).
12. Reddy K.S. and Arora M., Tobacco Use among Children in India: A Burgeoning Epidemic, Indian journal of Paediatric, 42, 757-761 (2005).
13. Gupta VM, Sen P. Tobacco: The addictive slow poison. Indian J Public Health 2001; 45: 75-81.
14. Gupta PC, Sinha DN. Tobacco research in India. Indian J Public Health 2004; 48: 103-4.