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Assessment of the reasons of second hand smoking among the school going children.

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ABSTRACT

Introduction-The effects of second hand smoking are adverse on the health of women and men exposed to it. According to the World Bank report, exposure to SHS causes as estimated 5% of the global burden of disease, which is slightly higher than the burden from direct use of tobacco (4%). **Aims and Objectives-** To assess the factors responsible for second hand smoking and frequency of second hand smoking/passive smoking among school going children. **Materials and methodology-** Type of study was prospective study and sample size was 340 out of which 100 qualified the study criteria. Students were taken from higher secondary schools at the catchment area of urban slums. All children in higher secondary division of the selected schools were included in the study. Participation in the study was voluntary. Data were entered and analyzed using Statistical Package for Social Sciences (SPSS). **Results-** A total of 340 students participated in this study. Out of which 100 were exposed to smoking (29.4%). Mean age of participants was 18.46±0.99 years. Among them, 4% said that they were inhaling the smoke from a family member for more than 10 years. In the study, 47% of the students revealed that they used to inhale smoke from a friend's cigarette. **Conclusions-** Late adolescent among higher secondary school students near urban slums in Bhopal district are exposed to second hand smoke in homes, outside and public places. This may be due to lack of awareness among students.

Key-words: Second hand smoking, School going children, Urban slums, Public places, Family member.

INTRODUCTION

The effects of second hand smoking are adverse on the health of women and men exposed to it. ¹ Premature deaths are estimated to be six million due to second hand smoking (globally), which exceeds the combined death tolls of AIDS, tuberculosis, and malaria. It is predicted by researchers that this figure will increase to 8 million by 2030, and developing countries will impart most of these deaths.²

According to the World Bank report, exposure to SHS causes as estimated 5% of the global burden of disease, which is slightly higher than the burden from direct use of tobacco (4%).³ It also implicates 10.9 million loss of disability-adjusted life years which is about 0.7% of worldwide burden of diseases.⁴ The level of exposure to SHS among women and children inside homes and at public places is alarmingly high in the Southeast Asia region.

The association between second-hand smoke and health outcomes, such as frequent respiratory infections, ischemic heart disease, lung cancer, asthma, and stroke, has long been established. Non-smokers who are exposed to second-hand smoke have an increased risk of developing heart disease at least by 25%, stroke by 20%, and lung cancer by 20%.^{5,6,7}

The Government of India has become increasingly engaged with the country's tobacco problem over recent years. ^{8,9} The more comprehensive Cigarette and Other Tobacco Products Act (addressing tobacco use in public places, tobacco advertising, and sale and packaging regulations) was introduced in 2003, and the Framework Convention on Tobacco Control brought into force in 2005.¹⁰ In 2008, Government of India adopted legislations for banning smoking in public places.¹¹ With these interventions, the proportion of children and adolescents exposed to second-hand smoke is expected to come down.

So this study was conducted to assess the causes for second hand smoking and frequency of second hand smoking/passive smoking among school going children.

MATERIAL AND METHODS

A prospective study was conducted. Out of all students interviewed, 340 students from higher secondary schools gave consent to participate in the study. At the catchment area of urban health training centre eight schools were present, out of which only six agreed to participate in the study. Out of 340 students only 100 students qualified the eligibility criteria. Eligibility criteria was that, participants who have smoked ever in their lifetime, were eligible for

this study or those who had done passive smoking in their life time.

A structured questionnaire was prepared based on literature review, and expert opinion. It included socio-demographic characteristics, details of respiratory symptoms, details of active and passive smoking, and indoor air pollution. Section on active and passive smoking was adapted from the Global Youth Tobacco Survey (GYTS) questionnaire.¹²The questionnaire was translated to regional language and back-translated to check for consistency. Data were entered and analyzed using Statistical Package for Social Sciences (SPSS). Descriptive statistics was done using frequencies and percentages. Appropriate statistical tests were applied.

RESULTS

A total of 340 students participated in this study. Out of which 100 were exposed to smoking (29.4%). So, the study was conducted in these 100 cases. Among them, 95% were males.

Among the study participants, 14% reported that they ever smoked a cigarette in their lifetime and 3% reported that they were current smokers. Mean age of participants was 18.46±0.99 years. Participants who were less than 17 years were 5 in number, 27 were in 17 to 18 age group while 68 were more than 18 years. In the study, 34% agreed that their family member used to smoke inside the house in their presence. Among them, 4% said that they were inhaling the smoke from a family member for more than 10 years. Majority of the respondents were exposed to smoke exhaled from father and friends. In the study, 47% of the students revealed that they used to inhale smoke from a friend's cigarette. On analysis of factors associated with household exposure to tobacco smoke, low educational status of father was significantly associated with the exposure. There was no statistically significant difference noticed between passive smoking exposure at home and by friends with age, gender, occupation, education of father or maternal education status.

Table 1- Distribution according to passive smoking duration and number of students.

Mean Age	18.46±0.99 years
No. of students exposed to passive smoking at home	53%
No. of students exposed to passive smoking when friends smoke	47%
Duration of exposure to passive smoking at home	
Less than 2 hours	18%
2 to 5 hours	50%
More than 5 hours	32%

Total students participated in the study = 340

Total students exposed to smoking = 100

Table 2- Socio demographic profile of participants and their association.

	Passive /Secondhand smoking			
	Friends		Home	
	Number	Percent	Number	Percent
Age group				
Less than 17 years	2	4.30%	3	5.70%
17 to 18 years	13	27.70%	14	26.40%
More than 18 years	32	68.10%	36	67.90%
P value		0.945		
Gender				
Female	3	6.40%	2	3.80%
Male	44	93.60%	51	96.20%
P value		0.55		
Occupation of father				
Skilled	2	4.30%	0	0.00%
Semiskilled	25	53.20%	31	58.50%
Unskilled	18	38.30%	18	34.00%
Unemployed	2	4.30%	4	7.50%
P value		0.398		
Education of mother				
Graduate	4	8.50%	6	11.30%
High School	8	17.00%	11	20.80%
Secondary	4	8.50%	9	17.00%
Primary	16	34.00%	18	34.00%
Illiterate	15	31.90%	9	17.00%
P value		0.397		
Education of father				
Graduate	13	27.70%	19	35.80%
High School	4	8.50%	4	7.50%
Secondary	16	34.00%	16	30.20%
Primary	7	14.90%	9	17.00%
Illiterate	7	14.90%	5	9.40%
P value		0.852		

DISCUSSION

Second hand smoking was assessed in schools near to urban slums of Bhopal. In our study this prevalence was 29.4% in schools. The prevalence of adolescents who smoked cigarette in the this research corresponds with evaluated data from GYTS, in which the prevalence of smokers to be around 10% in 13 to 15 years age group in our country.¹²

In our study 29.4% exposed to smoke out of them 53(15.6% out of 340) were exposed in home while 47(13.8% out of 340) were exposed outside with friends. Which corresponds to one of the study done among schoolchildren in Mumbai, I which 16.5% of students were exposed to second-hand smoke at home and 39.9% of students were exposed to second-hand smoke outside their homes.¹⁵WHO Framework Convention on Tobacco Control held at Paris concluded that 100% smoke-free environments are the only way to effectively protect

people's health from the ill effects of second hand tobacco smoke.¹⁶The current study reveals a high proportion of students in age group more than 17 years were exposed to passive smoking at homes, schools, and public places. As per the WHO Report on Tobacco Epidemic 2009, about 34% of children in the age group of 13–15 years were exposed to second-hand smoke at home in the Southeast Asian region.¹³ So, From this study it is evident that in spite of high literacy and better health-care systems, problem of tobacco and its addiction is still prevailing in community. The study was conducted in periphery of urban slums, therefore cannot be generalized to district or state. Limitations can be under reporting or over reporting by the subject as reporting was done by self from the subjects.

CONCLUSION

Students of age group more than 17 years are exposed to second hand smoke in homes, outside and public places. This may be due to lack of awareness among students of this age group. So interventions are required to reduce and control smoking. Also cessation of smoking at public places are required. These interventions and awareness among students will lead to prevention from harmful effects of smoking and make their future productive in right direction away from addiction.

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