

**A STUDY OF TOBACCO USE AMONG CHILDREN IN RURAL AREA NEAR BHOPAL: A CROSS SECTION STUDY**Rakesh Mishra<sup>1</sup>, Tariq Jalaly<sup>2</sup>, Roshan Chanchlani<sup>3</sup>**HOW TO CITE THIS ARTICLE:**

Rakesh Mishra, Tariq Jalaly, Roshan Chanchlani. "A study of Tobacco use among children in rural area near Bhopal: A Cross Section Study". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 24, June 16; Page: 6638-6643, DOI: 10.14260/jemds/2014/2795

**ABSTRACT: BACKGROUND & OBJECTIVES:** Tobacco use among school children is becoming a serious problem in developing countries. The early age of initiation underscores the urgent need to intervene and protect this vulnerable group from falling prey to this addiction. The present study was thus undertaken to estimate the prevalence, pattern and correlates of tobacco use amongst the 10-16 year olds in schools of rural area Bhopal. **METHODS:** Data on tobacco use were collected from 960 students of class 7 to 12 (age: 10-16 yrs) studying in rural blocks of Bhopal city during June 2011 to August 2012, through PPS and random sampling using a self-administered questionnaire. **RESULTS:** Point prevalence of ever user of tobacco amongst '10-16 year old was 8.7 %. Almost half of current tobacco users (48.8%) purchased tobacco product in a store and most of them (23.2%) used it at home. Nearly half of the never smokers (54%) were exposed to tobacco smoke outside home and 90 % favored a ban on smoking in public places. A male tobacco user was perceived to have more friends and was reported to make them look attractive. Print media was a predominant source of message. Only one-third (33.6%) reported that the reasons of tobacco usage amongst youth was discussed in formal school settings. **INTERPRETATION & CONCLUSIONS:** High prevalence of tobacco use among the adolescents. The focus in schools should be to make them tobacco-free. The school authorities should be included in stricter implementation and monitoring of the implementation of legislation. **KEYWORDS:** Prevalence, school health education, smoking, tobacco chewing.

**INTRODUCTION:** Tobacco and alcohol use among youth and children are a part of the spectrum of adverse health behaviors leading to acute and long term health problems. The diverse socio-economic, cultural and political milieu characterizing Indian states presents several challenges in delivery of health care services and organizing preventive programmes.<sup>1,2,3</sup> Everyday about 80,000 to 100,000 young people initiate smoking, most of them in the developing countries.<sup>4</sup> Of 1000 teenagers who smoke today, 500 will eventually die of tobacco related diseases-250 in their middle age and 250 in their old age.<sup>5</sup> Tobacco is the single largest preventable cause of death and disability worldwide. It was estimated in 1999-2001 that 5, 500 adolescents start using tobacco every day in India, joining the 4 million young people, under the age of 15yrs, who already use tobacco regularly.<sup>6,7</sup>

Like other developing countries, the most susceptible time for initiating tobacco use in India is during adolescence and early adulthood, ages 15-24 years.<sup>8</sup> Most tobacco users start using tobacco before the age of 18 years, while some start as young as 10 years.<sup>9</sup> While the traditional models of health care delivery have been found to be inadequate, there is a lack of new insight to appropriately manage the diseases of transition represented by high risk behaviors.

With the central legislation in place for regulating trade and commerce including advertisement of tobacco products,<sup>10</sup> an emerging trend has been the decreasing age of tobacco use and need to understand its determinants.<sup>11-13</sup> Overcoming the methodological limitations of earlier

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individual studies, Global Youth Tobacco Survey (GYTS) – India adopted a uniform methodology to estimate tobacco use amongst 13–15 yrs across the States and Union territories.<sup>2</sup> The present study is carried out to find the prevalence, pattern and correlates of tobacco use amongst the 10-16 year olds in schools of rural area Bhopal.

**MATERIAL METHODS:** The present cross-sectional study was a school based survey conducted from June 2011 to August 2012 at Fanda and Tumda rural blocks which are the field practice area of Chirayu Medical College, Bhopal. 960 apparently normal school students in early and mid-adolescence (10 years to 16 years) were selected by probability proportionate to size and random sampling. The sample size was calculated to be 956 ( $p=17.3\%$ ,<sup>14</sup>  $d=15\%$ , C.I. =95%). At the first stage, the schools were selected on the basis of probability proportionate to size, then classes were randomly selected and from each selected class, all students of every alternate section were included. The study was approved by our ethics and review committee.

The principals of the schools were informed in writing about the importance of survey. Students were told to participate in the study voluntarily and an informed consent from the students and school authorities was obtained. Children were explained about how to fill up the questionnaire and to provide authentic information. They were assured that all information would be kept confidential. This health questionnaire about tobacco use was prepared based on questionnaire from Global Youth Tobacco Survey (GYTS).<sup>15</sup> No changes were made in questions but some were excluded. The questionnaire was provided in English to private school students and was translated in Hindi for Government school students.

The translated version was validated before survey. The data were collected on socio-demographic profile, occupation and literacy status of their parents. Data were also collected on use of tobacco, age at initiation, smoking habits of parents and siblings, peer influence, reason of initiation of tobacco, places of tobacco consumption, purchase of tobacco for elders at home and teachers, etc. 'Ever use of tobacco' was defined as the use of tobacco even once including current tobacco use.<sup>16</sup> Tobacco consumption was broadly classified into two categories: smoking and chewing. Tobacco smoking includes cigarettes, beedis and others such as hookah, chillum, ganja, etc. Smokeless tobacco use includes Gutka, Khaini and Zarda.<sup>17,18</sup>

The collected data were entered and analyzed using Epi Info 2000 (Center for Disease Control and Prevention, Atlanta, Georgia, USA) and SPSS version 16 (SPSS 16.0 for Windows, release 16.0.0. Chicago: SPSS Inc). Frequencies of all variables were taken to check frequencies. Mean and standard deviation (SD) were calculated for continuous variables.

**RESULTS:** A total of 960 children between 10-16years were studied, there were total 585(60.9%) male while females were 375(39.1%). Overall point prevalence of 'ever use of tobacco use' among the 10 to 16yrs old was 8.7%. Current tobacco use was predominantly a male feature and was nearly four- fold greater among males (M: 11.6% vs. F: 2.1%). Smokeless tobacco (gutkha or pan-masala) use was greater than smoking variety (7.6% and 4.0%, respectively) amongst males, but similar amongst females (2.8% and 1.3%, respectively). Almost half of current tobacco users (48.8%) reported that they had purchased the tobacco product in a store.

Majority of current users smoked (23.2%) or chewed/ applied (27.6%) tobacco at home. The proportion of females using smokeless variety at home was nearly double (42.4% vs 23.1%) than

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those smoking at home. While 58.2% were exposed to tobacco smoke outside their home, 38.4% were exposed to tobacco smoke within their home. Further, nearly half of the never smokers (54%) were exposed to tobacco smoke outside their home. 90% of the never smokers favored and recommended for a ban on smoking in public places.

Enquiries regarding perceived image of tobacco user revealed that nearly one half of respondents (57.3%) reported that a male tobacco user has more friends and nearly one third (26.7%) opined that tobacco use makes boys look attractive. Two-thirds of the female smokeless tobacco user perceived that a male tobacco user has more friends (75.3%) and reported that tobacco use makes boys look attractive (72.5%). Print media was a predominant source of information for tobacco use and the respondents also reported that they witnessed large numbers of tobacco advertisements on either TV or in social gatherings. (Table 1)

Children had not come across many messages on bidis in the television, newspapers or magazines. An overwhelming proportion felt that tobacco use is definitely harmful to their health and 89% of never smokers felt that smoke from others use of tobacco is harmful to them. Despite being taught about dangers of smoking (56%), only about one-third (33.6%) reported that the reasons of tobacco usage amongst youth was discussed in formal school settings. (Table 2)

**DISCUSSION:** Majority of the tobacco related deaths occur in developing countries where problem of tobacco is assuming alarming proportions. The prevalence of tobacco use among school students in different States of India has been reported to vary from 1.9 per cent (Delhi) to 75.3 per cent (Mizoram).<sup>13, 19-21</sup> The prevalence of 'ever use of tobacco' in the present study was 8.7 per cent (boys: 11.4 %, girls: 4.6%) which lies with-in the range of various studies carried out in different parts of the country. Though tobacco use is on rise among girl students, we found the habit to be still a little less prevalent in girls than in boys. This observation is corroborated by other Indian studies.<sup>14,17,22</sup>

The present study has brought to the fore specific challenges for public health. Firstly, the emerging tobacco use in districts, talukas and rural areas needs serious attention of policy-makers. In the absence of concerted efforts in these populations, the numbers are likely to increase over a period of time. Secondly, the exposure to media messages regarding tobacco has a significant influence on initiators, experimenters and users, while increasing sales and availability.<sup>23,24</sup>

In addition, those using tobacco were perceived to be both popular and attractive. These two complementing issues are indeed a challenge, especially in the context of industry driven strategies of promoting "new life styles". Research conducted has already shown that children are targeted heavily by both direct and indirect methods.<sup>25,26</sup> Thirdly, purchase of a tobacco product by one third of users points to the easy and relatively unrestricted access at vending outlets. The large number of outlets, many of which are also located in the neighborhood of schools<sup>27</sup> and their regulation for restricting the sales to underage users is indeed a major public health challenge.

The laxity in the implementation of the legislation (ban of sales to underage persons and ban on selling outlet within 100 yards of an educational institution) specifically calls for a multi-sectoral approach to tobacco control initiatives. Fourthly, despite the greater harm perception, there was a major lacuna in systematic support within the schools to prevent tobacco use. "Saying No to Tobacco" requires acquiring of life skills and changes in attitude; and not just enhanced cognition or acquiring information. Information transfer alone without emphasis or focus on attitudinal changes and environmental modification will have limited impact and is a major public health challenge. Finally,

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Tobacco use at home, especially the smokeless variety amongst females is indicative of the prevalent social acceptance of tobacco use and would very well turn out to be a major threat in creating tobacco free environment.

**CONCLUSION:** High prevalence of tobacco use among the adolescents. The focus in schools should be to make them tobacco-free. The school authorities should be included in stricter implementation and monitoring of the implementation of legislation. Enabling teachers to educate the young impressionable minds regarding life style disorders should be a cornerstone activity in preventing the establishment of life style disorders like tobacco and alcohol use within the community.

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Category	Total
<b>Seen a lot of advertisement and media messages about Cigarette on</b>	
TV	13.3
Print Media	55.3
Newspapers/Magazines	34.1
Social gatherings	42
<b>Seen a lot of advertisement and media messages about beedis on</b>	
Print Media	51.8
Social Events	40.2
<b>Seen a lot of advertisement and media messages about gutka/Pan masala on</b>	
TV	13.9
Print Media	53.7
Newspapers/Magazines	32.8
Social gatherings	32.3

**TABLE 1: Recollections of Media Messages Regarding Tobacco Usage by Never Users (%)**

Category	Total	Male	Female
Percent who think smoking is definitely harmful to their health	91.4	88.3	95.7
Percent who think that chewing/applying is definitely harmful to their health	86.7	81.8	94.3
Never smokers who definitely think smoke from others is harmful to them (%)	89	86.1	93.4
Taught dangers of smoking (%)	56	42.2	77.4
Discussed tobacco and health as part of a lesson in class (%)	46.3	38.9	57.9
Taught the effects of tobacco use in class (%)	37.6	33.1	44.5
Discussed reasons why people their age smoke or chew (%)	33.6	31.7	36.7

**TABLE 2: Harm Perception of Tobacco Use and Curricular Discussion Regarding Tobacco Use (%)**

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Date of Submission: 30/05/2014.  
Date of Peer Review: 31/05/2014.  
Date of Acceptance: 07/06/2014.  
Date of Publishing: 12/06/2014.