



TOBACCO USE AND ITS DETERMINANTS AMONG SCHOOL GOING ADOLESCENTS IN SCHOOLS OF CENTRAL INDIA

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ABSTRACT

Background: Tobacco related morbidity and mortality is one of the preventable health problem in the world. Tobacco use mostly starts in adolescence and continues into adult life, these children are preventable targets. **Material and methods:** This observational cross-sectional study was conducted among the school children Kolar, Bhopal (M.P) between the periods of May, 2018-Oct. 2018. Three hundred adolescents from government schools were enrolled in the study. . The questionnaire contained questions regarding demographic parameters like age and sex education levels of family, occupation; habits of tobacco use, age at which initiation of tobacco was used. **Results:** Mean age of students was 15.39 years. Out of 300 adolescents 52 (17.33%) were tobacco users, males were 80.77% and 32.69% females ($p < 0.0001$), 53.85% were of middle aged adolescent ($p < 0.01$). Most of the adolescents were from illiterate families (59.62 %) and non-skilled worker families (65.38 %) with no statistically significant difference for family education and occupation. Most of the adolescents started tobacco use at an early age of 10-14 years ($p < 0.05$). The tobacco use in family and friends was significantly higher ($p < 0.05$) for adolescent tobacco users. Level of stress and easy availability of tobacco products near schools were also significantly ($p < 0.05$) among tobacco users. **Conclusion:** The findings of the study suggest that prevalence tobacco use in adolescents have increased from recent past. Early initiation of tobacco use was also observed in early adolescence. Adolescents of male sex, middle adolescence age, illiterate family of worker class who having tobacco use one or more tobacco user in family or friends and stress are determinants of tobacco use in adolescent age group.

KEYWORDS : Tobacco use, Adolescents

INTRODUCTION

Tobacco related morbidity and mortality is one of the preventable health problem in the world.[1,2] Tobacco chewing is prevalent in all parts of the world and all age groups though it varies in extent. Tobacco smoke contains over 4,000 chemicals, some of which have marked irritant properties and some 60 are known or suspected carcinogens [3]. Tobacco epidemic kills 5.4 million people annually worldwide ensued from various tobacco-related diseases. The overall proportion of male smokers is 24.3% while proportion of female smokers is 2.9% [6]. 40% of tobacco consumed in India is in the smokeless form like Gutkha, Zarda, Pan-masala, etc. ICMR has prepared atlas of cancer in India highlighting mouth, tongue, pharynx and nasopharyngeal cancers all related to tobacco [4].

Tobacco use mostly starts in adolescence and continues into adult life, these children are preventable targets as they are continuously being targeted by the tobacco industry for marketing.[5] Research has shown that teen tobacco users are more likely to lead into alcohol and illegal drugs use, especially in those who starts early.[6,7] The most common reasons due to which children to start using tobacco are usually peer pressure, parental tobacco habits, and unwashed pocket money given to them.[8]

In developed countries, public awareness of the health hazards of tobacco use has led to increased regulation of the tobacco industry, resulting in restrictions on the advertising and availability of cigarettes and higher prices for them. As a result, tobacco companies are aggressively seeking new markets in the developing world like ours.[5-7] These markets and young population countries are quite attractive because in most developing countries, there is little legislation. Thus this study was conducted to study prevalence and determinants of tobacco use in tender age of adolescence so that problem can be more accurately quantified and appropriate public health measures can be taken to counter the prevailing problem.

MATERIAL METHODS

This observational cross-sectional study was conducted among the school children Kolar, Bhopal (M.P) between the periods of May, 2018-Oct. 2018. Six government schools from the area were randomly selected. In each school a day was fixed with prior permission of the school principal. Total students in each class from standards VI to standard XII were noted. Total students present on study days and at the time of interview were 300 thus included in the study. Prior to main study a pilot study on 30 students was conducted and relevant changes were made in the questionnaire. A pretested, anonymous, self administered questionnaire in local language was used to collect the information after taking informed consent. The questionnaire contained questions regarding demographic parameters like age and sex education levels of family, occupation; habits of tobacco use, age at which initiation of tobacco, etc was used. At the end, a health education session was conducted with the help of flex banners indicating health hazards, ways to quit tobacco, etc for all the students to increase their awareness. The data was fed into excel sheet arranged and tabulated. Statistical analysis was performed using SPSS version 16 of Microsoft corporation, California, USA.\

RESULTS

Three hundred adolescents from government schools were enrolled in the study. Mean age of students was 15.39 years. Out of 300 adolescents 52 (17.33%) were tobacco users. Among all tobacco user most of the adolescents were males (80.77%) and 32.69% females ($p < 0.0001$). Among tobacco users 13.46% were in early adolescent age, while most of the adolescents were of middle adolescent age with 53.85% of them, While 32.69% were in late adolescent age ($p < 0.01$). Most of the adolescents were from illiterate families (59.62 %) and non-skilled worker families (65.38 %) with no statistically significant difference for family education and occupation.

Table 01: Showing demographic features of study participants

Demographic Parameters		All (n=300)	Tobacco users (n=52)	Chi-square
Age Groups	10-13	97 (32.33 %)	7 (13.46 %)	p<0.01
	14-17	120 (40 %)	28 (53.85 %)	
	18-19	83 (27.67 %)	17 (32.69 %)	
Sex	Male	169 (56.33 %)	42 (80.77 %)	P <0.0001
	Female	131 (43.67 %)	10 (19.23 %)	
Family Education	Illiterate	134 (44.67 %)	31 (59.62 %)	p=0.097
	Primary	102 (34 %)	12 (23.08 %)	
	High School	49 (16.33 %)	6 (11.54 %)	
	Secondary or above	15 (5 %)	3 (5.77 %)	
Family Occupation	Non-skilled worker	183 (61 %)	34 (65.38 %)	p=0.51
	Skilled worker	87 (29 %)	15 (28.85 %)	
	Service	30 (10 %)	3 (5.77 %)	
TOTAL		300 (100 %)	52 (17.33 %)	

Most of the adolescents started tobacco use at an early age of 10-14 years (p<0.05). In the school education against tobacco use and other activities were significantly lacking at school (0.05). The tobacco use in family and friends was significantly higher (p<0.05) for adolescent tobacco users. Level of stress and easy availability of tobacco products near schools were also significantly (p<0.05) among tobacco users.

Table 02: Showing factors determining tobacco use in adolescents

Factors	Parameters	Number Adolescents
Age of starting use*	<10 years	8 (15.38 %)
	≥10-14 years	38 (73.08 %)
	>14 years	6 (11.54 %)
Type of tobacco	Smoking	29 (55.77 %)
	smokeless	23 (44.23 %)
Education in school*	Yes	8 (15.38 %)
	No	44 (84.62 %)
Family member with use*	Yes	47 (90.38 %)
	No	5 (9.62 %)
Friends with use*	Yes	50 (96.15 %)
	No	2 (3.85 %)
Inspired with movies	Yes	21 (40.38 %)
	No	31 (59.62 %)
Activities at School*	Yes	9 (17.31 %)
	No	43 (82.69 %)
Alcohol use	Yes	1 (1.92 %)
	No	50 (96.15 %)
Stress*	Yes	18 (34.62 %)
	No	34 (65.38 %)
Availability near school*	Yes	41 (78.85 %)
	No	11 (21.15 %)

*Chi-square p-value <0.05 (significant)

DISCUSSION

Study was conducted in sub-urban school going adolescent population. The prevalence of tobacco use among the school children was found out to be 17.33% which is higher than that found in GYTS Delhi 2005 (10%)[9]. In a similar study by Sahasrabuddhe et al. and Raj Narain et al [10,11], the prevalence was found to be Sahasrabuddhe et al. 13.89% and 11.2 percent which is lower but near to the findings of our study. The prevalence ranges from 2.1 percent in a study by V. Singh [12] to 33.12 percent in a study conducted by N Makwana [13]. In our study of 52 (17.33%) regular tobacco users out of 300 adolescent, 42 (80.77 %) and 10 (19.23 %) were males and females respectively. The gender wise distribution of tobacco use in other studies is comparable to our study [10-14]. The prevalence among girls is significantly lower than the boys. The findings are in confirmation with the GYTS data that has shown that boys aged 13 to 15 were only 2-3 times more likely to smoke than girls [15].

In a study by Sahasrabuddhe et al 78% of children initiated tobacco use by the age of 13 years out of which 12% had started it before 10 years which are comparable to our findings[10]. Among Indian studies the mean age of initiation of tobacco use has been found to vary from 8 to 15 years. The majority of tobacco users worldwide have reportedly first tried tobacco prior to age 18. Every 2 years, CDC analyzes data from the national Youth Risk Behavior Survey (YRBS) to evaluate trends in cigarette use among high school students in the United States. It showed that high school students who were Current Smokeless Tobacco Users was found to be 8.9% For current cigarette use, the prevalence was 19.5% with prevalence in male 19.8% and 19.1% in females [16].

GYTS survey shows that 26.4% participants had one or more parents who smoke [15]. In our study 96.15% participants had one or more family members who were tobacco users. The difference can be attributed to sub-urban settings and low socio-economic status as majority of parents especially father was non-skilled worker. As seen in our study the tobacco use pattern is among school children is influenced by the habits of parents and friends. A study by Rahul Sharma et al also came up with similar findings [17]. Friends using tobacco had a strong influence on the adolescents to ever use tobacco. A friend was more likely to inspire ever use of tobacco compared to a family member. Similar findings were observed in a study conducted in Greece where odds of a friend smoking were 10 among adolescent smokers.[18] This emphasizes the fact that amongst adolescents there is a strong influence of their peers for experimenting with tobacco use and hence ever use of tobacco.

The present study findings were consistent with other studies from India which show that 80% students freely purchased tobacco products from shops located near their school and home, some students found from their own homes and few borrowed from friends or relatives.[19] Though under COTPA 2003, sale of tobacco products to minors (under 18 years) is prohibited, yet these studies point to the fact that the implementation of this act is not done stringently and minors are able to purchase tobacco products easily from vendors.

Conclusion

The findings of the study suggest that prevalence tobacco use in adolescents have increased from recent past. Early initiation of tobacco use was also observed in early adolescence. Adolescents of male sex, middle adolescence age, Illiterate family of worker class who having tobacco use one or more tobacco user in family or friends and stress are determinants of tobacco use in adolescent age group.

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