FACTORS ASSOCIATED WITH INITIATION OF TOBACCO USE AMONG ADOLESCENT STUDENTS OF MORADABAD, (U.P) INDIA

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Tobacco consumption is a major health menace owing to its widespread use particularly among adolescents. Impressionable curious minds of adolescents are highly prone to a number of influences within and outside home, which leads them to experiment with tobacco. The addictive nature of tobacco is potent enough to turn these experimental users to regular users and ultimately addicts.

The aim of the study is to identify factors associated with initiation of tobacco use among adolescents of Moradabad. Two stage sampling method was used to recruit 1770 adolescents {study population} from 8 senior secondary schools in Moradabad. The response toward tobacco, and its use, was assessed through structured questionnaires. Responses of all study population and association between dependent and explanatory variables were assessed using x^2 test (chi-square test) using SPSS package. Results show that 17.3% of the adolescents have experimented with tobacco. Curiosity and peer pressure were the main reason for trying tobacco. Parental tobacco status especially location of use {either at home or outside} had a significant influence on adolescents experimenting with tobacco. Tobacco use by parents is likely to influence adolescents, as they perceive tobacco use as a positive and acceptable behavior, and develop favorable personal beliefs and subjective norms towards tobacco use.

KEY WORDS: experimental tobacco, parental tobacco use, tobacco initiation.

INTRODUCTION

Tobacco use is alarming in terms of its current and projected future impact on global mortality. If the current trend continues, the number of people killed by tobacco related illness will be more than 10 million annually by the year 2030.[1]

Tobacco use often begins before adulthood. The global youth tobacco survey shows that a disturbingly high number of school children between the age of 13 and 15 years are currently using or have tried tobacco.[2] Addiction to nicotine occurs faster in young smokers. Recent research suggests that some adolescents begin to experience loss of control over their smoking habit within weeks of smoking the first cigarette.[3]

In young adolescents risk of developing tobacco related cancer and chronic heart and lung diseases are greater. The damaging and harmful effects of tobacco usage on oral health are now well recognized. These include, in particular a higher prevalence and severity of periodontal diseases and malignancies among smokers.[4,5] Even experimental use of tobacco in adolescence significantly increases the risk of addiction to tobacco as well as the risk of disease and death.[6]

So this study is designed to identify and analyze the factors associated with initiation of experimental tobacco use among adolescent students of Moradabad (UP) India.

METHODS AND MATERIALS

This study was conducted on adolescent students aged 12-15 years attending various senior **secondary** schools in Moradabad, (Uttar Pradesh) India. The required sample size was estimated to be 1764 based on the results of pilot study in which prevalence of experimental tobacco users was found to be 18.5%; with an allowable error of 10%. Two-stage

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sample design was used to produce a representative sample. In the first stage 8 schools were selected and in the second stage students were selected from these schools using table of random numbers. These 8 senior secondary schools were selected based on Probability Proportional to Enrolment size (PPE) i.e. the schools with high number of students are more likely to be selected than schools with low number of students.

A questionnaire with a set of 15 questions was prepared with the help of previous studies. These close-ended questionnaires covered questions regarding tobacco use, factors leading to its initiation, type of tobacco consumed, attitude towards tobacco use, and awareness about health risk. It was designed in such a way that the procedure should not take more than 10 minutes for an individual considering the interest and co-operation level of adolescent students. Before the start of study, permission was obtained from ethical review board of the institution; prior permission was also obtained from respective school authorities. The time and date of the survey was informed to the students well in advance and informed consent was obtained. The students were instructed to give only one answer for each question, which they felt, was the most appropriate. Out of 1960 questionnaires distributed (considering 90% response rate), 1770 duly filled questionnaires were returned. Association between dependent and explanatory variable were assessed using x^2 test (chi-square test). All analyses were done in statistical package for the social sciences (SPSS).

RESULTS

In the study, 1770 adolescent students from senior secondary schools of Moradabad formed the study sample. The boys were 1362 in number as against girls who were 408 in number. This is due to less importance given to girl's education in this part of the country. 19.4 % (264) of the boys and 10.4 % (42) of the girls have tried to use tobacco once or more before this study i.e. experimental tobacco use (Fig.1). 14-15 years was the commonest age during which the subjects first tried to use tobacco. Various reasons are attributable for trying tobacco among adolescents, among which curiosity ranked highest 35% (108) closely followed by peer pressure 31.4% (96). About 15.7% (48) subjects tried tobacco to impress the opposite sex. Few attempted it to show that they have grown up or merely as an extension of family practice (Fig 2).

FIG 1
PREVALENCE OF ADOLESCENT STUDENTS WHO HAVE EXPERIMENTED WITH TOBACCO

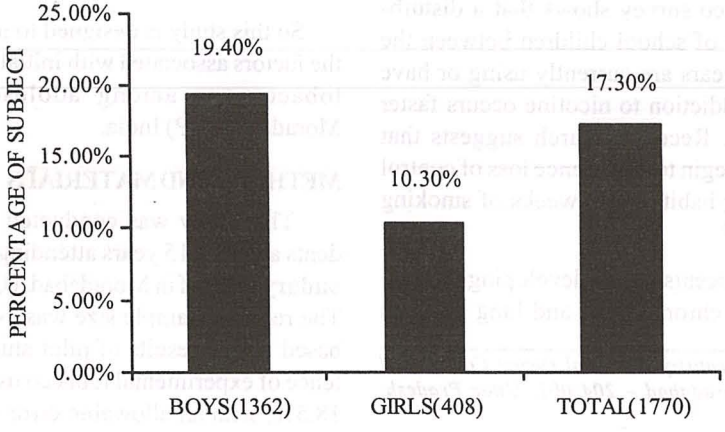
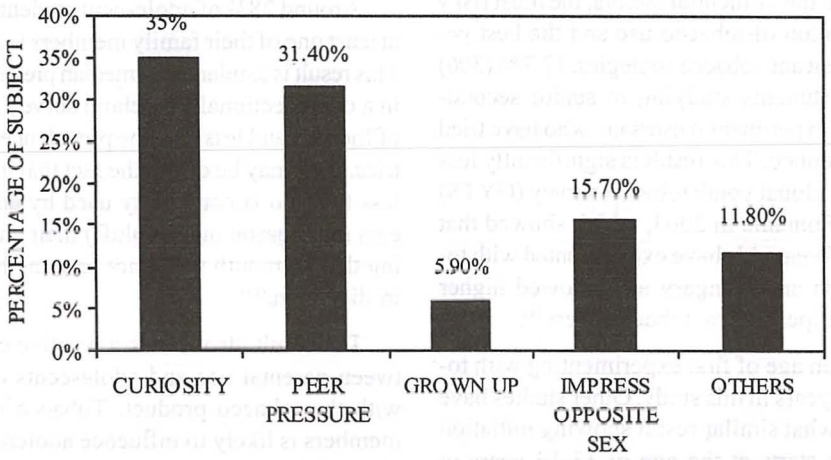


FIG 2
. REASONS FOR EXPERIMENTING TOBACCO AMONG ADOLESCENT STUDENTS



Among adolescents who have experimented with tobacco, 71.4% (30) of the girls tried smokeless forms of tobacco like gutka, paan masala, Khaini etc. whearas 26.6% (12) of the girls tried smoking. Among boys 65.9% (174) tried smokeless tobacco, 34.1% (90) boys tried smoking which included cigarette, beedi or pipes.

A considerable effect of the parental use was reflected on the subjects in this study. Among 498 adolescents whose parents used tobacco, 22 % (114) adolescent students tried it. Among 1272 adolescents, whose parents did not use tobacco, only 15 %(192) of the adolescent students tried it (Table 1). The location of tobacco use by parents, within home or outside was also found to have a major effect on subjects trying tobacco. In the group of parents where 55.4% (276) of them used it at home, 28.5% (78) of their children tried it. In contrast among 44.6% (222) parents who used tobacco outside home, only 16.2% (36) of their children's tried tobacco. This was found to be statistically significant (P£0.001, Table 1). The awareness regarding health hazards inflicted by tobacco use was good; out of 1770 subjects 83% were aware of the disastrous effects of tobacco on health.

TABLE 1

RELATIONSHIP BETWEEN TOBACCO CONSUMPTION OF PARENTS ON ADOLESCENTS EXPERIMENTING TOBACCO

Parents of adolescents		Adolescents who have experimented with tobacco	P value
Using tobacco	498	114(22.9%)	≤0.005 (significant)
Not using tobacco	1272	192(15.0%)	
Using tobacco at home	276	78(28.5%)	≤0.001(highly significant)
Not using tobacco at home	222	36(16.2%)	

DISCUSSION

This study provides an overview of tobacco use among adolescent students in Moradabad and enables us to reveal the influential factors, the most risky period of initiation of tobacco use and the best period to implement anti tobacco strategies. 17.3 % (306) of adolescent students studying in senior secondary schools are experimental users i.e. who have tried tobacco at least once. This result is significantly less as compared to global youth tobacco survey (GYTS) carried out at Romania in 2003, which showed that 56.7% of 13-17 year olds have experimented with tobacco. [7] Serbia and Hungary also showed higher prevalence of experimental tobacco users [8].

The common age of first experimenting with tobacco is 14-15 years in this study. Other studies have reported somewhat similar result showing initiation of tobacco use starts at the age of 13-14 years in most of the countries.[10]

Curiosity and peer pressure were the main reasons for experimenting with tobacco during adolescence. The relationship with the peer group becomes stronger than with family members and the young people are influenced more by the habits of their friends. Imitating the behavior of friends is a common practice among adolescents (Erikson theory).[6,9] The proportion of adolescents experimenting with tobacco is higher in boys than girls. Boys in Indian culture enjoy higher level of freedom regarding their individual behavior than girls, both in the family and society.[11] The recent study from Turkey also showed that boys were more likely to use tobacco as compared to girls.[12] The most popular form, among adolescents who had experimented with tobacco products has been smokeless tobacco (Pan Masala, Gutka etc) (66.7%). This may be because of lack of knowledge of the ingredients and health hazards of smokeless tobacco (Pan Masala, Gutka etc) and misinterpretation of these products as mouth freshener or processed betel nut as they are available in similar packages. Many use smokeless tobacco as toothache, headache and stomachache remedies. This false impression promotes tobacco use among youths.[13] In addition smokeless tobacco products are convenient to hide from their parents and teachers , are less expensive, easier to use and widely available.

Around 28% of adolescent students reported that at least one of their family members is a tobacco user. This result is similar in the median prevalence of 30.6% in a cross sectional household survey from 26 states of India[14] and less than the prevalence of other countries. This may be due to the fact that in India smokeless tobacco is commonly used by adults; and parents may reason out to (bluff) their children by saying that its mouth freshener or something that helps in digestion.[13]

The result also shows a positive correlation between parental use and adolescents experimenting with the tobacco product. Tobacco use by family members is likely to influence adolescents; they are more likely to perceive tobacco use as a positive and acceptable behavior. This also helps them to develop favorable personal beliefs and subjective norms on tobacco use. This has been reflected in the results showing that the parents who used tobacco at home had greater impact on their children to experiment tobacco product as it grants them easy access to tobacco products in the household.[15] Similar positive correlation was observed by other studies conducted around the world.[15-20] although majority of adolescents have good knowledge of the hazards of tobacco on health; the lack of comprehensive knowledge to some extent had influenced adolescent experimenting with tobacco.

CONCLUSION AND RECOMMENDATION

This cross sectional survey of the factors leading to initiation of tobacco use in adolescent students of Moradabad shows that the average age of experimenting with the tobacco product is 14-15 years. The tobacco use by the friends and family members has strong influence on adolescent's tobacco consumption behavior. Nearly 17.3% of the adolescents have experimented with tobacco products but they may be the potential regular users of the future. So a comprehensive preventive program has to be developed to prevent adolescents from experimenting with

tobacco, which should include school based educational programs, parental counseling to limit the influence of tobacco use on their children, government regulation on smoking areas and age limit on purchase of tobacco products.

Some of the other independent variables such as the stress, promotional advertisements, and exposure to environmental tobacco smoke on adolescent's tobacco behavior were not analyzed. Further studies are needed to assess the effects of these variables.

REFERENCES

1. Jha P, Ranson MK, Nguyen SN, Yach D. Estimates of global and regional smoking prevalence in 1995, by age and sex Am J Public health 2002; 92:1002-1006.
2. The Global Youth Tobacco Survey Collaborating Group. Tobacco use among youth: a cross-country comparison. Tobacco control 2002; 11: 252-70.
3. DiFranza JR, Savageau JA, Rigotti NA. Development of symptoms of tobacco dependence in youths: 30-month follow up data from the DANDY study. Tobacco control. 2002; 11: 228-235.
4. Papapanou PN: Risk assessments in the diagnosis and treatment of periodontal diseases. J Den Edu 1998; 62: 822-39.
5. Johnson NW and Warnakulasuriya K A A S. Epidemiology and aetiology of oral cancer in the United Kingdom. Community Dental Health.1993; 10(suppl.1), 13-29.
6. Tyas LS, Pederson L. Psychosocial factors related to adolescent smoking: a critical review of the literature. Tobacco Control 1998; 7: 409-20.
7. National Center for Chronic Disease Prevention and Health Promotion, Global Youth Tobacco Survey; available on the web page of National Center for Chronic Disease Prevention and Health Promotion

http://www.cdc.gov/tobacco/global/GYTS/factsheets/2004/pdf/Romania factsheet.2004.pdf.

8. National Center for Chronic Disease Prevention and Health Promotion, Global Youth Tobacco Survey; available on the web page of National Center for Chronic Disease Prevention and Health Promotion. http://www.cdc.gov/tobacco/global/gyst/GYTS_countryreports.htm.
9. Qidwai W, Zuhid N. Characteristics of smokers and their knowledge about smoking at a teaching hospital in Karachi. Pak J Med Sci.2005; 21(1): 109-111.
10. Cornad KM, Flay BR, Hill D. Why children start smoking cigarettes, predictors of onset. Br J Addict 1992; 87: 1711-1724.
11. S K Jindal et al. Tobacco smoking in India: prevalence, Quit-rates and Respiratory Morbidity. Indian J Chest Dis Allied Sci 2006; 48: 37-42.
12. Nevbahar Ertas. Factors associated with stages of cigarette smoking among Turkish youth. Eur J Public Health 2007 17(2): 155-161.
13. WHO. Tobacco in SEAR: A health challenge. WHO, SEAR, New Delhi.
14. Rani M, Bona S, Jha P, Nguyen SN, Jamjoum L. Tobacco use in India: prevalence and predictors of smoking and chewing in a national cross-sectional household survey. Tobacco control 2003; 12:e4.
15 Sargent JD,Di Franza JR Tobacco control for clinicians who treat adolescents.CA Cancer J Clin. 2003; 53:102-123.
16. Markham WA et al What determines future smoking intentions of 12 to 13 year old UK African-Caribbean, Indian, Pakistani and White young adults? Health Educ Res. 2004; 19:15-28.
17. WHO, The world health report 2002, WHO.
18. De Vries H, Engels R, Kremers S, Wetzsel J, Mudde A. Parents and friends smoking status as predictors of smoking onset: findings from six European countries. Health Educ Res 2003; 18:627-36.
19. Holm K, Kremers S, DeVries H. why do Danish adolescents take up smoking? Eur J Public Health 2003; 13: 67-74.
20. Farkas AJ, Gilpin EA, White MM, Pierce JP. Association between household and workplace smoking restrictions and adolescent smoking. JAMA 2000; 284:717-722.

22nd ANNUAL PFA CONVOCATION & AWARDS CEREMONY

22nd PFA Annual Convocation and Award Ceremony will be held at Manipal on Sunday, the November 16, 2008. Hon. Brig. Padam Bhushan Dr. Anil Kohli, President, Dental Council of India has kindly consented to be the chief guest. Fellows keep this date free and attend the convocation and awards ceremony.

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