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TOBACCO USE AMONG RURAL ADOLESCENT MALES: A CROSS-SECTIONAL STUDY

Community Medicine

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ABSTRACT

This cross-sectional descriptive study using convenience sampling technique was conducted in rural Thane district in Maharashtra State on male adolescents aged between 15 and 20 years. A pre-tested formatted proforma was used to collect information on socio-demographic profile and self-reported tobacco use. The mean age of participants (n=180) was 17.80 +/- 1.19 years (95% CI: 17.63 - 17.97 years). Tobacco consumption by other family members was significantly (p=0.005) associated with adolescent tobacco use. The predominant factors for tobacco consumption among the current tobacco users (n=31; 17.22%) included social customs, peer pressure, feeling of well being and perception of tobacco use as a "status" symbol. On the Fagerström Scale, tobacco smokers had high dependency score (8+).

KEYWORDS

Adolescents, Nicotine dependency, Tobacco use

INTRODUCTION

Adolescents are ever more exposed to addictions, which are likely to persist into adult life. [1] Tobacco use in adolescents is reaching pandemic levels and is a leading cause of preventable deaths. An estimated six million people worldwide die prematurely due to tobacco use and deleterious effects of second-hand smoke. [2] In 2010, 24% of men and about 3% of women were tobacco users in India. By 2025, the extrapolated prevalence of tobacco use will be about 15% for men and 1% for women. [2]

Considering the colossal health complications associated with tobacco use, understanding the factors leading to its use is of paramount importance. This is especially relevant for developing countries like India, where tobacco use continues to be widespread despite the awareness of its detrimental consequences. [1,3,4]

Tobacco addiction in a large number of adults is initiated during adolescence. [3] Smoking tobacco causes cancer of the lung, larynx, kidney, bladder, stomach, colon, oral cavity and oesophagus as well as leukaemia, chronic bronchitis, chronic obstructive pulmonary disease, ischemic heart disease, stroke, miscarriage, premature birth, birth defects and infertility, among other diseases. [5] Smokeless tobacco affects the oral cavity, pharynx and oesophagus and is responsible for a large proportion of tobacco-related cancers in India. [6,7] The other consequences of tobacco production and usage include economic loss for countries, poverty for individuals, deforestation, and other environmental problems in tobacco-growing countries. [8]

Currently, about 5 million deaths per year are ascribed to tobacco, which is expected to rise to more than 8 million deaths a year by 2030. An estimated three quarters of these deaths will be in low and middle income countries. [5] Since 1999, the Global Youth Tobacco Survey has elicited attitudes about tobacco and information on exposure to tobacco smoke among the youth [9] in 140 countries. [10] In Maharashtra State, the prevalence of tobacco use was 5.8% among women and 36.5% among men during 2015-2016. [11]

Studies [12-14] from developed countries have demonstrated the association between parental smoking, peer smoking, and pro-tobacco marketing on adolescent current smoking status. However, the results of such studies may not be applicable to India. The objective of the present study was to determine the socio-demographic profile of study population, frequency of tobacco use, patterns of use, and to assess Nicotine dependency among tobacco users based on the Fagerström scale. [15]

MATERIAL AND METHODS

This cross-sectional descriptive study using convenience sampling technique was conducted during 2015-2016 at Vaitarna, Khardi, Thane district in Maharashtra State. After obtaining permission from the Institutional Ethics Committee, the community stakeholders and the prospective participants were explained about the purpose of the study. The participants included male adolescents aged between 15 and 20 years. Written informed consent was obtained in the local language. A pre-tested formatted proforma was used to collect socio-demographic information and data on self-reported tobacco use. A participant was considered a "tobacco user" if he self-reported consumption of tobacco in any form during one year preceding the study. Modified B.G. Prasad classification (2016) was used to determine the socio-economic status. The data were collected, compiled, tabulated and then analyzed using Microsoft Excel 2013 and Open Epi Software Version 2.3. The difference of proportions between qualitative variables was tested using Pearson Chi-square test. The 95% confidence interval was depicted as: [Mean - 1.96 * Standard Error] to [Mean + 1.96 * Standard Error].

RESULTS

TABLE-1: Socio-demographic profile of participants (n=180)

Parameter		Frequency
Age group (years)	15-16	26 (14.5)
	17-18	98 (54.4)
	19-20	56 (31.1)
Type of family	Nuclear	129 (71.7)
	Joint / Extended	35 (19.4)
	3rd Generation	11 (06.1)
	"Broken" family	05 (02.8)
Socio-economic status	Upper Class	01 (0.6)
	Upper Middle Class	09 (5.0)
	Middle Class	26 (14.4)
	Lower Middle Class	100 (55.6)
	Lower Class	44 (24.4)

Figures in brackets indicate percentages

The mean age of participants (n=180) was 17.80 +/- 1.19 years (95% CI: 17.63 - 17.97 years). Most participants belonged to nuclear families and to lower middle class as per Modified B.G. Prasad classification, 2016. (Table-1)

Out of 180 participants, 31 (17.22%) were current tobacco users and 149 (82.8%) had never used tobacco. As per self-reported responses, 14 (45.2%) participants had been initiated into tobacco habit when they were 5-10 years of age. 11 (35.5%) started using tobacco at the age of 11-15 years, while 4 (12.9%) did so when they were aged 16-20 years.

Though the participants gave multiple reasons for starting tobacco use, the factors that initiated tobacco consumption were social customs (41.9%), peer pressure (32.3%), feeling of well being (29.0%), perception of tobacco use as a "status" symbol (25.8%), for increasing concentration at work (19.5%) and abdominal pain relief (9.7%).

The consumption of tobacco by other family members significantly increased the tobacco use among the adolescents. (Pearson Chi-Square value=12.860; p=0.005) The proportion of tobacco consumption increased with increasing age i.e. from 0.56% in 15-16 years age group to 12.2% in 19-20 years age group. The association between age and tobacco consumption was statistically significant. (Pearson Chi-square value=28.026; p<0.0001). Out of 31 tobacco users, a majority were aged 19-20 years. The association between age and form of tobacco consumption was not significant. (Pearson Chi-square value=6.831; p=0.145).

Out of the total 31 current tobacco users, 38.7% used *bidis* while 22.6% used cigarettes. Common smokeless tobacco users, the commonly used products were gutkha (6.5%), *paan* with tobacco & lime (6.5%) and quid (6.5%).Seven subjects (16.1%) consumed both smoked and smokeless forms of tobacco – quid with either *Bidi* or Cigarette.

On the Fagerström Scale, [15] subjects who consumed smoked tobacco had high dependency score (8+); those using smokeless tobacco had low (1 to 2) to high dependency score (8+) while those using both smoked and smokeless tobacco had moderate (5 to 7) to high dependency score (8+).

DISCUSSION

In the present study, the major factors which influenced the tobacco intake were social customs, peer pressure, feeling of well being, perception of tobacco use as a "status" symbol, increasing concentration on work and abdominal pain relief. Other studies [12,14] have reported that the factors associated with adolescent smoking include parental and peer smoking, exposure to pro-tobacco marketing, [13] easy access to tobacco products, adolescent age group, genetics, among many others. However, one study [16] has reported that adolescents select their friends (peers) based on their own characteristics and that parental smoking plays a greater role in adolescent smoking.

Limitations:

This cross-sectional study was limited to one specific geographical area, relied on self-reported tobacco use and was based on convenience sampling of those who gave written informed consent to participate in the study. Therefore, the findings of the study cannot be extrapolated to the general population. Since some information was obtained on the basis of recall of past behaviour, recall bias is to be expected. Social desirability bias is also probable since many not have identified their parents or their close friends as tobacco users.

CONCLUSION

Out of the 180 male adolescents (mean age: 17.80 ± 1.19 years) who were enrolled in the study, 31 were current tobacco users - smoking (n=19; 61.29%); smokeless (n=7; 22.58%); both (n=5; 16.93%). The majority belonged to lower middle socio-economic class and nuclear families with a history of initiation of the tobacco consumption during 5-10 years of age. Family history of tobacco consumption was significantly linked to adolescent tobacco use. Several factors were involved in initiating tobacco use. Subjects who consumed both smoked and smokeless tobacco had high or moderate dependency. Though restrictions at home and legal bans in public places may reduce the opportunity for tobacco use, teachers have a role in educating adolescents for adopting healthy lifestyles.

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