

Epidemiological Profile of Tobacco Users at Tobacco Cessation Centre: An Indian Experience

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Abstract

Objective. Tobacco consumption continues to rise in India with about 34.6% of adult population being tobacco users. This study was done to evaluate the epidemiological profile of the tobacco users presenting to a Tobacco Cessation Centre (TCC) in Delhi.

Methods. This is a retrospective observational study of subjects seen over a period of 10 years (2001-2010) at TCC of Vallabhbai Patel Chest Institute, University of Delhi, Delhi, India. Information from a structured questionnaire filled by all tobacco users was pooled and analysed.

Results. Of a total of 4493 subjects seen in the TCC, 4370 (97.3%) were males. 2704 (60.2%) subjects were smokers and remaining were users of smokeless tobacco. The highest number of subjects attending the clinic was between the age of 31 to 40 years. The mean age of starting tobacco use was 21 years. 2518 subjects started tobacco use due to "peer group pressure", while family history of tobacco use was observed in 2912 subjects. 3065 number of subjects attending the clinic were without any co-morbidity.

Conclusions. Most of the subjects started tobacco use at a young age between 11 to 20 years. Peer pressure was the most common reason for initiation (56%). Most of the subjects (68.2%) had no co-morbidity. The present study observed that tobacco users probably want to quit smoking not only because of the consequences of co-morbidities but also because of the realisation of later harmful effects of continuing smoking.

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Key words: Smoking, Tobacco, Cessation, Smokeless tobacco.

Introduction

Of the estimated 1.1 billion smokers worldwide, about 182 million (16.6%) are in India.¹⁻⁴ Tobacco consumption continues to rise in India with about 34.6% of adult population being tobacco users.⁵ In our earlier study,⁶ we found that the prevalence of smoking was 23.6% in males and 3.9% in females. Tobacco use is the major preventable cause of death world-wide and is responsible for nearly one million deaths every year in India.⁵ Tobacco cessation is the most cost-effective of all health-care interventions.⁷ A number of reviews and guidelines on smoking cessation have been published so far^{7,8} and these provide recommendations for intervention and strategies to promote the treatment of tobacco dependence.

In spite of increased awareness about its harmful effects, tobacco consumption continues to be a significant health risk in the world. It has also been

observed that 70% of smokers want to quit.⁹ In 2002, the Government of India with the support of World Health Organization (WHO) started 13 tobacco cessation clinics for tobacco cessation activities.¹⁰ Further, the Ministry of Health and Family Welfare, Government of India launched the National Tobacco Control Programme (NTCP) in 2007-2008 to strengthen further the emphasis on tobacco cessation activities throughout India.¹¹ Behavioural interventions, such as physician advice, self-help material, and psychological intervention are provided in these clinics.⁷ Pharmacological therapies are also prescribed whenever required. The treatment strategy is individualised. A sound understanding of the psycho-social characteristics and epidemiological profile of tobacco users attending the clinic is imperative for formulating and improving the tobacco cessation activities. In this study we describe the clinico-epidemiological profile of tobacco users.

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Material and Methods

The present study is a retrospective analysis of the profile of tobacco users at Tobacco Cessation Centre (TCC) at Vallabhbai Patel Chest Institute (VPCI), University of Delhi, Delhi, functioning since the year 2001. The manpower involved in conducting the activities of the centre comprised of doctors, medico-social workers, postgraduate medical students and staff nurses. The TCC is equipped with educational materials, audio-video facilities and carbon monoxide analyser. All the tobacco users enrolled at the centre from November 2001 to December 2010 were included in the present study.

The TCC caters to the tobacco users from referrals of patients attending the hospital and also from public approaching directly for tobacco cessation. Details of demographic profile, such as name, age, address, telephone number, etc were noted. Thereafter, they were administered a structured questionnaire to obtain information on socio-economic status, occupation and marital status. Details of tobacco use, i.e. type of tobacco use, starting age, duration of tobacco use, reasons for starting smoking, number of *bidis*/cigarette consumed per day, amount of smokeless tobacco use, number of quit attempts in past were documented. Fagerstrom questionnaire for Nicotine Dependence (FTND) was also administered determining the nicotine dependence of the subjects.¹² Approval for the study was obtained from the Institutional Ethics Committee.

Results

A total of 4493 tobacco users (4370 males and 123 females) availed the services of the TCC from November 2001 to December 2010. The year-wise distribution of tobacco users is summarised in the figure. Mean age (\pm SD) of the subjects was 40.2 \pm 14.1 years (range: 10 to 82 years). The highest number of subjects belonged to the age group 31 to 40 years (1112, 24.7%) followed by 21 to 30 years (1081, 24.1%) and 41 to 50 years (993, 22.1%). The epidemiological data of the subjects are summarised in table 1.

The maximum number of tobacco users were Hindus (87.7%) (Table 1). Single, divorced/widowed comprised only about 20% of the tobacco users. Majority of the subjects (71.7%) reporting to TCC were residents of urban areas (Table 1). Only 15.8% of subjects at the TCC were illiterate (Table 1). Duration of tobacco use was 11 to 20 years in 46.4% subjects followed by <10 years in 21.2% and 21-30 years in 20.2%.

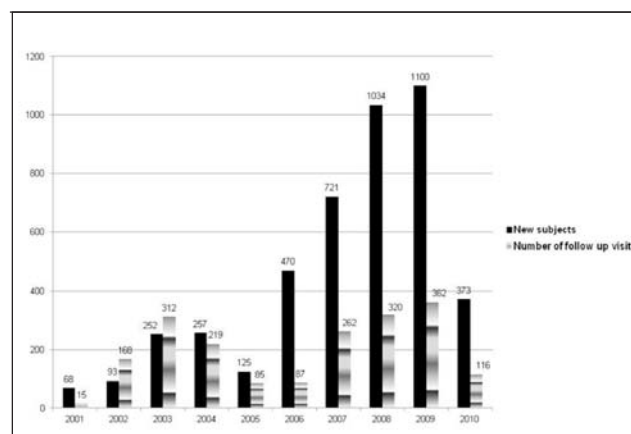


Figure 1. Total new subjects and number of follow-up visits at TCC from 2001 to 2010.

Table 1. Epidemiological profile of tobacco users (n=4493)

Total	Total (%)
Gender	
M	4370 (97.3)
F	123 (2.7)
Religion	
Hindu	3939 (87.7)
Muslim	537 (12.0)
Other	17 (0.3)
Marital status	
Single	889 (19.6)
Married	3604 (80.2)
Divorced/Widow	10 (0.2)
Residence	
Urban	3321 (71.7)
Rural	1172 (28.3)
Educational status	
>12 th Class	1724 (38.4)
12 th Class	2061 (45.9)
Illiterate	708 (15.7)
Occupation	
Professional	762 (17.0)
Student	422 (9.4)
Business	719 (16.0)
Skilled/unskilled/ semiskilled/worker	1990 (44.3)
House-wife	100 (2.2)
Unemployed	276 (6.1)
Retired	224 (5.0)
Type of tobacco user	
Smokers	2704 (60.2)
Smokeless tobacco	1348 (30.0)
Both	441 (9.8)
Age of starting tobacco use (in years)	
<10	510 (11.4)
11-20	2035 (45.3)
21-30	1016 (22.6)
31-40	491 (10.9)
41-50	289 (6.4)
51-60	108 (2.4)
>60	44 (1.0)
Reason of smoking	
Peer pressure	2518 (56.0)
Fun and pleasure	1975 (44.0)

Majority of tobacco users belonged to skilled, unskilled and semi-skilled worker group (44.3%) followed by professionals 762 (17.0%) (Table 1). Most of the tobacco users at our centre were smokers (60.2%) whereas 30% were smokeless tobacco users and 9.8% were using both forms of tobacco (Table 1).

The mean age of starting tobacco use was 20.1±11.8 years (minimum 8 years and maximum 66 years). However, quite a significant number of users [510 (11.4%)] had started using tobacco below 10 years of age. The study found that maximum number of users started tobacco use between the age of 11-20 years (Table 1). The average years of tobacco use was 18.9±10.9 years with a range of 1 to 58 years. Peer pressure was a predominant cause for initiation of tobacco use in 56% (Table 1), while 65% had a family history of tobacco use with a male predominance (Table 2). History of alcohol consumption was present in 787 (17.5%) subjects.

The mean Fagerstrom test score was 5.4±2.6. A majority of tobacco users had a Fagerstrom test score of 5-7 (2211, 49.2%) (Table 2). The details have been summarised in table 2.

On analysing the past history of quit attempts, it has been observed that nearly 13% made multiple unsuccessful attempts, while majority (55.5%) of subjects had 1-3 months of successful quitting, followed by >3 months successful quitting in the past (Table 2).

Table 2. Clinical characteristic of tobacco user (n=4493)

Clinical Characteristics	Number (%)
Fagerstrom score	
0	410 (9.1)
1-4	708 (15.8)
5-7	2211 (49.2)
8-11	1164 (25.9)
Alcohol use	
Yes	787 (17.5)
Family history of tobacco use	
Present	2912 (64.8)
Father	(60.5)
Mother	(6.7)
Brother	(51.7)
Sister	(2.9)
Husband	(2.5)
Uncle	(9.7)
No. of quit attempts in the past	
Never attempt	1079 (24.0)
MUA (<1 Month)	565 (12.6)
1-3 Month abstinent	2494 (55.5)
>3 Months abstinent	355 (7.9)
Reason of quit attempt	
Because of knowledge of harmful effect	2601 (57.9)
Physical problem	1892 (42.1)

*MUA=Multiple unsuccessful attempts

Discussion

Vallabhbhai Patel Chest Institute (VPCI) started a "Tobacco Cessation Clinic" (TCC) in November 2001. Subsequently it was re-named as "Tobacco Cessation Centre" in the year 2005 due to its involvement in educational and research components of tobacco addiction apart from regular tobacco cessation clinic activities. Now the TCC has been upgraded to Resource Centre for Tobacco Control (RCTC) from the year 2009. During the period of this study, i.e. from 2001 to 2011, the TCC has catered to 4493 new tobacco users and has followed-up 1983 tobacco users.

The maximum number of subjects attending the TCC belonged to the age group of 21-40 years, indicating that the middle age group is more likely to seek help for tobacco cessation. This is due to the fact most people start using tobacco before the age of 25 years and most of them reach the middle age before they start thinking about quitting of tobacco use. One of the reasons for this may be that when people start using tobacco they may not be properly informed about the harmful effects of tobacco. With advancing age and experience, they become aware of the harmful effects of tobacco and then decide to quit tobacco consumption. Studies have shown that most of the subjects presenting for the cessation programme belonged to older age group with mean age being 50±25 years.^{13,14} Similar to our observation, an evaluation of five years of data at TCC's across India¹⁵ had revealed that the highest number of tobacco users belonged to 21-40 years age group.

In the present study, (2.7%) females attended our centre for quitting tobacco use. The reason for the low attendance of females at our centre may be due the low prevalence of tobacco use in females in India, especially in urban areas.⁵ Prevalence of tobacco use in females is about 12% in urban areas and about 24% in rural areas, much lower compared to males in whom the prevalence rates are 38% in urban areas and 52% in rural areas.⁵ Another reason for low turnout of females at the centre is the social stigma attached to tobacco use by females even if they intend to quit. This is in contrast to the observation of predominance of females attending smoking cessation programmes in several studies in western countries.¹³

In the present study, 87.7% subjects were Hindus followed by Muslims (12%) and others 17 (0.4%). This represents the pattern of religious groups seen in our area. Nearly 72% subjects reporting to our centre were residing in the urban areas and rest of them were from rural areas. In contrast to Global Adult Tobacco Survey (GATS),⁵ this can be explained by the location of the centre in an urban area. Rural inhabitants are not likely to travel longer distance to seek help for tobacco cessation. Therefore, these findings further emphasises the need to establish TCC services in rural areas also.

In the present study 60.2% were smokers followed by 30% smokeless tobacco users and 9.8% used both forms. *Khaini, gutka, pan masala, pan*, tobacco paste were the products commonly used as smokeless tobacco. The smokers mainly used cigarettes and *bidis*. As per the GATS findings,⁵ overall in India, tobacco users comprise of 8.7% smokers, 20.6% smokeless tobacco users and 5.3% both forms of tobacco users. Smoking is the predominant form of tobacco used in urban areas which was also found in the present study.

In the present study, mean age of starting tobacco use was 20.9 years; 11.4% subjects started using tobacco below the age of 10 years and 45.3% started between 11-20 years of age. We observed that most of the subjects started tobacco use between the age group of 11-20 years, which mean they started tobacco use at a very young age. The above finding is in contrast with GATS⁵ which found age of initiation of tobacco use to be 20-34 years in 40.3%. This can be attributed to regional differences in epidemiological and behavioural characteristics as well as rapid exposure of youngsters to tobacco in urban areas owing to internet and electronic media.

Majority of the subjects had started tobacco use before the age of 20 years and in this age group peer group has big influence on the habits acquired by an individual. This observation correlates with the younger age of initiation of tobacco use as was noted earlier. In the present study, 56% subjects started tobacco use due to peer pressure and 44% started it for fun and pleasure. Another observation that merits mention is the family history of tobacco use in almost 65% of the tobacco users. Again younger individuals will have a greater curiosity to experiment with tobacco if parents and siblings are tobacco users.

In the present study, the most common reason among those who were interested in quitting the use of tobacco was self-realisation about the harmful effects of tobacco use (57.9%) and another important reason was the concern about physical health of individual (42.1%). About 75% of the subjects had attempted to quit in the past. History of quit attempts in the past in 75% subjects in our study shows that most people have a desire to quit and are likely to quit if properly guided and counselled.

In our study population, 70% had no associated co-morbidity. Chronic obstructive pulmonary disease was the main co-morbidity in 30% of tobacco users in our study. This may be because our TCC is located in a chest hospital. Reporting of tobacco users to our TCC, without any co-morbidity, is an encouraging sign of increasing awareness and desire among tobacco users to quit.

Conclusions

It can be inferred that tobacco is an evil for our society which catches its victims at a young age, and peer

pressure and family history of tobacco use are important contributors for its initiation. Simultaneously, an important observation is the presence of desire to quit amongst tobacco users even without any disease, which is an encouraging finding towards the goal of tobacco-free life for an individual and society at large. To make a successful tobacco control programme in India, there is an urgent need of the hour to expand the role of TCCs in rural areas.

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