

Tobacco Use: Quitting Plan, Attempts and Obstacles for Cessation- A Cross-Sectional Study from A Sub-Urban Neighbourhood of Chennai, Tamil Nadu

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ABSTRACT

Introduction: Tobacco consumption is a preventable public health problem. GATS -2 survey in Tamil Nadu shows that 20% of adults use tobacco, 40% had plans to quit and 48% had made quit attempts. The purpose of the study was to assess factors associated with tobacco use; quitting plan, attempts and identify obstacles for tobacco cessation.

Methods: A Cross-sectional study was done among 300 tobacco users in a suburban neighbourhood of Chennai and data was analysed using SPSS software.

Results: Ninety five percent were smokers and 86% smoked cigarettes. 70% knew that it causes cancer and respiratory diseases. 60% planned to quit, 69% made quit attempts. Those with quit plans and health problems had an increased odds (AOR of 1.02 and 1.004 respectively) of making quit attempts. Advice from health professionals (48%) and family (52%) triggered quit attempts. Stress and work pressure were obstacles for quitting (70%). Availability of therapy and professional help for tobacco cessation was known only to 49% and 14.7% respectively and none availed it.

Conclusion: Awareness of health hazards of tobacco use was high. Quit attempts have increased but with high failure rates due to lack of information and access to tobacco cessation services. Provision of community and facility-based tobacco cessation services and integration with existing health programmes is the present need.

Key words: Tobacco use, Tobacco quit attempts, tobacco cessation, barriers in cessation of tobacco use

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INTRODUCTION

Tobacco use is one of the leading preventable public health issues, which is projected to be the single largest cause of mortality globally.¹ Use of tobacco usually starts at a young age and continues throughout their life time and presents with a wide spectrum of diseases. Control and prevention of tobacco use becomes crucial to limit mortality and morbidity. The prevalence of adult smokers and smokeless tobacco users in India are 10.7% and 28.6% respectively.² An article on "Economic Costs of Diseases and Deaths Attributable to Tobacco Use in India, 2017–2018" done by Rijo M. John et al shows that the economic burden from tobacco constitutes more than 1% of India's GDP, and the direct health expenditures on treating tobacco-related diseases alone accounts for 5.3% of the total private and public health expenditures in India in a year.³

India is the second largest producer tobacco in the world.⁴ As per the second round of Global Adult Tobacco Survey (GATS) done in 2016-17 in Tamil Nādu (TN), 31.0% of men, 9.3% of women and 20.0% of all adults either smoke tobacco and or use smokeless tobacco.⁵ Comparative data of GATS-I (2009-10) and GATS II (2016- 17) done in TN shows that the prevalence of smoking has increased by 0.9 % and smokeless tobacco by 2.5 % and tobacco use in any form increased from 16.2% to 20%.⁵ National Family Health Survey – 5 (NFHS 5) data show a relatively lower prevalence of tobacco use among men and women – 20.9% and 4.9%,⁶ yet use of tobacco continues to remain as an issue of concern.

GATS 2 survey in TN has shown that 31.7% and 24 % of smokeless tobacco users have made a quit attempt in the last one year. 52.9% of the current smokers and 40.2% using smokeless tobacco have planned to quit.⁵ Tamil Nadu Tobacco survey done in 2015 - 2016 has shown that 40% of the tobacco users wanted to quit tobacco.⁷ Studies have shown that urge to smoke, withdrawal symptoms and work pressure are main reasons for failure of quit attempts.^{1,8} Lack of professional help to quit tobacco use emerged as an important reason.⁸ In addition to creating awareness through mass media and enforcing legislative measures, a move to the next frontier of establishing support systems for cessation of smoking is a burning need, as those quitting even at the age of 60years reduce their risk of dying by 10% compared to those who continue to smoke. Smoking cessation is known to produce immediate decline in blood carbon monoxide level, normalization of pulse rate and blood pressure. Risk of lung cancer, coronary heart diseases and obstructive pulmonary diseases are markedly reduced by tobacco cessation.⁹

The present study would assess the current practice of tobacco use, factors associated with intention of quitting, quit attempts made and to identify the awareness about the support systems and the vari-

ous obstacles to quit, to get a holistic picture of the issues related to cessation of tobacco use.

METHODOLOGY

It is a community based cross-sectional study done among tobacco users in Chrompet, a suburban neighbourhood of Chennai located in Southern Chennai metropolitan area.

Sample Size and Calculation

As per the GAT 2 survey done in Tamil Nadu⁵, Current smokers in urban areas planning to quit was 57.6%, The sample size was calculated using the formula, with an allowable error of 10%.

Sample size $N = Z^2 p(100-p)/L^2$ where $Z^2 = (1.96)^2$, $p=57.6$, $q= 100-57.6 =42.4$, $L =$ an allowable error of 10%.

Calculated sample size= $1.96^2 * 57.6 * 42.4 / 5.76^2 = 284$, sample size rounded to 300.

There are around 22 petty shops in Chrompet selling cigarettes, beedi, beetle leaves and chewable tobacco. Of these five petty shops were visited by more than 20 tobacco users per day. Three hundred tobacco users visiting these five shops and willing to participate in the study were the study subjects.

Tobacco users coming to the first shop were interviewed during the first week, those coming to the second shop in the second week and so on. By the end of the fifth week all the five shops were covered. These petty shops were visited around 11am in the morning and 4.30pm in the evening when large number of tobacco users visit the shops. Tobacco users were interviewed till the required sample size of 300 was reached. The study was conducted during September and October 2022.

Data Collection Method: A pre tested semi structured questionnaire prepared in the local language – Tamil was used to interview the study subjects. Data was collected by face-to-face interviews and the responses were filled by the investigator themselves.

Operational definitions: Tobacco users: Tobacco users include those who used both smoke and smokeless forms of tobacco at least for a period of one year.

Planned to quit: refers to those who have planned to stop using tobacco during the last one year.

Quit attempts: Refers to those who had decided to quit tobacco use and have not used tobacco in any form at least for 24hrs.

Ethical considerations: Informed written consent was obtained from all the study participants. Ethical clearance was obtained from the Institutional Human Ethical committee of Sree Balaji Medical College and hospital.

Statistical Analysis: Data was entered in MS Excel and analysed by using SPSS version 22. Descriptive statistics was used to present the data in the form of tables. Analytical statistics like chi-square and odds ratio was used to establish the statistical significance (at 95% Confidence Interval) and to assess strength of association between tobacco quit attempts and related variables. Multiple Logistic regression analysis was used to eliminate the confounders and find out the predictors of tobacco quitting.

RESULTS

Profile of Tobacco users

Ninety six percent of the study subjects were males and 64% of them were married. The age of participants ranged from 18 to 70 years, and the mean age was 37.2 years. Details of the age distribution is given in Table 1.

All the study participants were literate and 45% of them had college education. Details of educational status of the study participants are given in Table 1.

The study participants were a mixed group which included those on daily wages, self-employed, skilled workers and professionals working in offices close by. The participants included those with an annual income of less than 2 lakhs and those above 10 lakhs. Detailed information of nature of occupation and income is given in Table -1.

Table 1: Demographic profile of tobacco users (N=300)

Variable	Frequency (%)
Age distribution	
<20 years	8 (2.7)
20 to 30 years	119 (39.7)
to 40 years	64 (21.3)
40 to 50 years	60 (20)
>50 years	49 (16.3)
Educational Status	
Primary	56 (18.7)
High school	52 (17.3)
Higher secondary	52 (17.3)
Diploma	4 (1.3)
College	136 (45.4)
Occupation	
Labourers/ drivers on daily wages	119 (39.3)
Self employed	29 (9.7)
Skilled workers	55 (18.3)
Professionals	98 (32.7)
Annual Income (INR)	
< than 2 lakhs	128 (42.7)
>2lakhs - < 5lakhs	74 (24.7)
>5lakhs - < 10 lakhs	72 (24)
> 10 lakhs	26 (8.7)

Tobacco use:

Ninety-five percent smoked tobacco and the remaining used smokeless forms of tobacco like chewable

tobacco with betel quid, hans and gutka. Cigarette was predominantly smoked (86%) and the remaining smoked beedi. Twenty two percent used more than one product of tobacco. Three percent used gutka, which is banned product and 15% used hans (a form of chewable tobacco).

Eighty-eight percent of them started to use tobacco when they were less than 20 years of age. Forty percent have been smoking for more than ten years and 60% smoked more than 3-4 times per day. Multiple reasons were given for starting tobacco use, the main reasons were influence of friends (61%), feeling manly and matured (29%) and for socialising (25.7%). Be it cigarettes, beedi, hans, gutka or any form of chewable tobacco, people had easy access to it.

All of them were aware of one or many of the diseases caused by tobacco use. More than 70% knew that its causes lung cancer and respiratory diseases and 50% knew that it causes oral cancers and heart diseases. Information on the health hazards of tobacco has been obtained from multiple sources like newspapers, mass media, health workers and advertisements in the packets, however mass media emerged as the main source to provide information on the health hazards – 93%.

Quitting Plan, Attempts and Barriers

Sixty percent of them had plans about quitting tobacco use of which 17% had planned to quit more than 3 times since they started to use. Twenty nine percent of them had some health problems – Diabetes (13.0%), Hypertension (12.3%) and respiratory problems (4.0%). Forty two percent of them have been advised by their doctors to stop smoking and this includes 20% of those who had visited their doctors for common health problems like fever and cold. Almost half of them have planned to quit out concern of their family members, while the other half was by the advice of the health professionals.

Among those who planned to quit tobacco use, 69% made quit attempts and 64% of them had made three or more attempts. 63% of those who have been smoking for more than 10 years and 65% of those who smoked more than 10times per day have made quit attempts and this was found to be statistically significant. (Table-3). 48% made quit attempts because they had health problems and were advised by the health professionals to stop tobacco use and the remaining as they were advised by their family and friends. Only 33% could stop using tobacco for a month and they also resumed back to use of tobacco. Stress and work pressure were quote as the main reasons for resuming tobacco use in given in Fig -1

Barriers to tobacco cessation and accessing cessation services

Forty eight percent were aware that aids /therapies are available to help to quit tobacco use. Thirty six percent knew nicotine replacement therapy along with counselling sessions will help to stop tobacco

use and another 35% knew nicotine replacement therapy as a single intervention 14.7% knew that professional help is available, only 2% knew where it is available, and none availed it.

Variables which were found to have a statistically significant association in bi variate analysis were taken for logistic regression analysis. It was found that participants who had plan to quit tobacco use and having history of health problems had an increased odds (AOR of 1.02 and 1.004 respectively) of making quit attempts – Table 3.

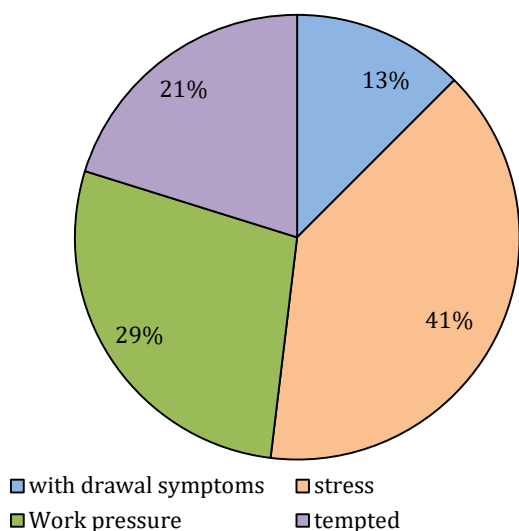


Fig 1: Reasons for resuming tobacco use (N=124)

Table 2: Factors associated with Quitting tobacco Use

Factors associated with quitting	Quit attempts		Total	P value
	Yes (%)	No (%)		
Gender				
Male	124(42.9)	165(57.1)	289	0.103
Female	2(18.2)	9(81.8)	11	
Therapies known to quit tobacco				
Yes	64(44.4)	80(55.6)	144	0.41
No	62(39.7)	94(60.3)	156	
Planning to quit				
Yes	124(68.9)	56(31.1)	180	0.000*
No	2(1.7)	118(98.3)	120	
Health problems				
Yes	53(60.2)	35(39.8)	88	0.000*
No	73(34.4)	139(65.6)	212	
Use of tobacco per day				
>10 times /day	22(64.7)	12(35.3)	34	0.013*
5-10 times /day	36(42.4)	49(57.6)	85	
3-4 times/day	68(37.6)	113(62.4)	181	
Duration of tobacco use in years				
>10 years	75(63.0)	44(37)	119	0.000*
5-10 years	14(24.1)	44(75.9)	58	
2-5 years	27(26.2)	76(73.8)	103	
2 years	10(50)	10(50)	20	
Annual income				
<2 lakhs	47(36.7)	81(63.3)	128	0.009*
>2- <5 lakhs	25(33.8)	49(66.2)	74	
>5-<10 lakhs	42(58.3)	30(41.7)	72	
>10 lakhs	12(46.2)	14(53.8)	26	

Table 3: Multiple Logistic Regression analysis between tobacco quit attempts and related variables

Variables	P Value	AOR	95% C.I. for AOR	
			Lower	Upper
Having an Annual Income of less than 2 Lakhs	0.457	1.12	0.82	1.53
Participants who thought of quitting tobacco	.000*	1.2	1.02	1.32
Having history of health problems	.042*	1.112	1.004	1.231
Participants who had increased consumption of tobacco per day	.061	1.596	.979	2.602
Having increased duration of tobacco use (in years)	.104	1.303	.947	1.792

AOR – Adjusted Odd’s Ratio,

* - Statistically significant at 95% Confidence Interval. Logistic Regression Analysis was used.

DISCUSSION

Use of tobacco:

Tobacco use was predominantly among men and three fourth of them used more than three times a day. Peer pressure, feeling of manliness and for socializing were reasons for starting to use tobacco. Almost 4/5th of them started to use tobacco before the age of 20 years as seen in other studies.^{7,10} The recent Global Young Adultly survey done in TN in 2019 shows that 4.8% of the current smokers are in the age group of 13 to 15 years which is alarming.¹¹ An article by Dasgupta A et al recommends that youth centred innovative, age-appropriate strategies must be introduced to stop initiation of tobacco

use.¹⁰ Education does not seem to play a role in reducing use of tobacco as seen in other studies from Chennai.^{12,13}

Cigarette was the commonest tobacco product used followed by beedi. Smokeless forms were used by few and one fifth of them used more than one product as seen in other surveys/ studies.^{5,8,9} except in a study in an indigenous population where smokeless tobacco was more used.⁹ A study from Chennai among auto rickshaw drivers showed high prevalence of use of Gutkha & beedi.¹⁴ Banned products like Gutka was easily available.⁷

Mass media was the main source of information about the risks associated with tobacco use, and advice from health care providers played a major role

in creating awareness.¹⁵ Knowledge of the health hazards of tobacco use especially smoking was very high, but this has not helped them to quit tobacco however made them to attempt quitting as seen in various studies.^{6,10,11} A wide gap exists between intention to quit and quitting which can be reduced through counselling and de addiction strategies.

Quit Plans, attempts & barriers

Despite high prevalence of tobacco use, it is encouraging to note that reports/ studies show that a good number have plans to quit and have made quit attempts as observed in our study.^{5,7,8} Health problems, concern of the family members were main reasons to attempt quitting.

Withdrawal symptoms, work pressure and temptation were major challenges in quitting.^{6,8} A study done among IT professionals in Chennai revealed stress of job was a main reason for failure to quit, and this was observed in our study which had a large proportion from the IT sector.¹² Those who attempted to quit did not use tobacco only for a month or two. This is not sufficient as abstinence for at least 6-7 months is required to completely change behaviour.⁸ Lack of access to cessation services and support from health professionals to help people to withdraw from tobacco use was quoted as a major barrier to quitting.¹⁶

Awareness of Cessation aids/ services

Half of them knew that treatment modalities exist for tobacco cessation and one third of them knew about nicotine replacement therapy and counselling sessions like another study done among IT professionals,¹² unlike few studies where not much were known about the treatment modalities.^{10,16} Though people know that therapies are available, yet do not know where to seek services. A study among migrant population in Chennai shows that 1.7% have utilised services, unlike our study where not one had availed services.¹⁷

Several initiatives have been initiated under the National Tobacco control programme like cessation support services at the district level, training health professionals and creating toll free number for a quit line to provide information on tobacco cessation, all these have helped to bring a marginal decline in tobacco use but has not brought in the expected outcomes.^{8,18,19} During this May 2022 an App has been developed by the Cancer Institute in Chennai and launched by GOTTN to support cessation service especially for those not willing to attend clinics²⁰, has not yet gained popularity and was known to none.

Availability and access to tobacco cessation services continues to be a major lacuna existing in Tobacco control programme. A research article on Tobacco cessation services in India, has stated that quit attempts were unsuccessful due to lack of support from trained health professionals and funds and further adds that doctors need training to handle this issue¹⁰.

Addressing Barriers:

Withdrawals symptoms and stress at work place are the main barriers for failing in quit attempts. Success in quit attempts is possible with knowledge and access to cessation services at an affordable cost which is a major stumbling block. There is a need to introduce cessation services across the health facilities both in the private and public sector. Pharmacotherapy and counselling can be provided free of cost in public health facilities and in non-Governmental organisations at subsidized cost. Clinics have been established under the National TB control programme, some have shown good quit rates, but these are not equipped to cover a larger population.^{18, 20,21,22}

Few successful models which the country has witnessed in focussed sites in few states can be replicated or scale up. A study done by Chellapa L, has shown that a brief physician delivered intervention using cognitive behavioural therapy in primary health care settings has significantly increased quitting rates. Intervention taken up in few districts of Kerala, Karnataka and Bihar through mass media, Interpersonal communication and continuous support at community level has brought a substantial increase in quit rates.^{9,19} Community centred approaches were found to be more successful than clinic centred approaches.¹¹ Concern about health of family members were visible, hence involving family members and publicizing cessation related information would yield good results.^{1,10,15}

A policy brief of ICMR, from the National institute of research in Tuberculosis, Chennai in December 21, had shown that enhanced counselling involving the family and adopting various educative strategies have helped in cessation of tobacco use among TB patients, and this could be replicated.²³ Few researchers have recommended the need for including tobacco cessation in the curriculum of UG & PGs and sensitise primary health physicians.⁹ A study among doctors on Apps available related to cessation of smoking showed that they had very limited knowledge.²⁴

It important to integrate tobacco cessation into existing programmes like TB and NCD control programmes including cancer control as many plans to quit only when they have a health problem.^{8,11} Even after diagnosis of TB and cancer patients continue tobacco use, hence treatment should also include an approach to initiate smoking cessation, manage withdrawal symptoms and provide long term support.¹¹

Health and wellness centres established in the recent years with their staff and volunteers provides an opportunity for providing tobacco cessation services at the community level. The focus of mass media is now mainly on educating the various health hazards of tobacco, a shift in focus is now required to create awareness in the community on access and availability of tobacco cessation services and the various therapies which exists. Health care providers and

family members should jointly support individuals in the process of tobacco cessation.

LIMITATIONS OF THE STUDY

The study findings reported in should be considered in the light of some limitations as the study participants include only those coming to petty shops and does not include those who purchase from other shops or through others and smoke or chew tobacco at home, work place and common places and this could be the reason for very women as study subjects.

CONCLUSION

Various initiatives taken towards educating people on the health hazards of tobacco has created awareness among the public but has not translated into practice of quitting. Yet it is encouraging to note that many have made multiple quit attempts though the success rate was low. Multi-pronged strategies are now required to avoid initiation of tobacco use by non-users and cessation of tobacco use among current smokers. In addition to the ongoing strategies, the next step should be to establish cessation support services right from the primary care level both in the public and private sector, popularise these services, and integrate it into various existing health programmes both at the community and health facility level. Provision of enhanced counselling involving family members, empowering health professionals to provide cessation services and developing behavioural change communication strategies tailored to meet the requirements of the target group is crucial to save millions of lives.

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