



## INTENTION TO QUIT TOBACCO SMOKING AND ITS PREDICTORS AMONG ADULT MALE SMOKERS AT SINGUR, WEST BENGAL

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**ABSTRACT** **Background:** Tobacco is the single most preventable cause of death and disability. Quitting tobacco use at any age will help in improving the quality of health. **Objective:** To find out the intention to quit tobacco smoking and its predictors among adult male smokers. **Methodology:** A cross-sectional clinic based study was conducted for 2 months (July-august 2017) among 123 adult male current smokers. Nicotine dependence was assessed using Fagerstrom test for nicotine dependence (FTND) questionnaire and intention to quit tobacco smoking and its various predictors were assessed using structured schedule. Logistic regression was done to establish association. **Results:** Intention to quit tobacco smoking significantly associated with higher educational status (AOR=3.04. CI=1.32-6.98), low nicotine dependence (AOR=3.85, CI=1.52-9.73), less duration of tobacco smoking (AOR=2.33, CI=1.02-5.31), previous H/O quit attempts (AOR=2.73, CI=1.17-6.32) **Conclusion:** The low rate of quitting intention among adult smokers underscore the need for comprehensive policy initiatives that would encourage smokers to think about quitting.

**KEYWORDS :** Tobacco smoking, Nicotine dependence, Intention to quit smoking

### INTRODUCTION

Tobacco is the single most preventable cause of death and disability. The World Health Organization estimates that every 6 seconds somebody dies from a tobacco related disease globally.[1] Tobacco will cause one billion deaths in the 21st century, 80 percent of which will occur in developing countries. [2] It is estimated that approximately 976 million smokers in the world. In India around two in every five adults from rural areas and one in every four adults from urban areas use tobacco in some form.<sup>[3]</sup>

Nicotine dependence (tobacco dependence) is an addiction to tobacco products caused by the nicotine altering the meso-limbic pathway and causing temporarily mood-altering effects in brain.<sup>[4,5,6,7]</sup>

Quitting tobacco use at any age will help in improving the quality of health. After quitting tobacco, the risk of death decreases immediately. The survival rate becomes about the same as that for non-smokers, if a tobacco user quits before the age of 35 years. Former smokers live longer than ongoing smokers, no matter at what age they stop smoking, though the impact is greatest for quitting at younger age.<sup>[8]</sup>

Despite the clear benefits of quitting, according to India Global Tobacco Adult Survey (GATS) 2009-2010 results, the quit rate is very low in India, with only two out of five tobacco users having made any attempts to quit tobacco. Evidence shows that tobacco users are aware of the health benefits of quitting tobacco and express a desire to quit, but the majorities are unsuccessful in their quit attempts.<sup>[9]</sup>

Different studies identified age, education, age at initiation of smoking and nicotine dependence as important predictors of quitting.<sup>[10,11,12,13]</sup> Fragerstrom test for nicotine dependence questionnaire is an instrument that can determine the level of nicotine dependence.<sup>[14,15]</sup>

Though many studies have been carried out in our country on prevalence of tobacco use and its different correlates, but detailed information on the predictors of quitting habit among the users and specially relationship of nicotine dependence with intention to quit is relatively scarce.

This cross-sectional study was conducted to find out the intention of

adult tobacco smokers (18 years and above) towards quitting and its predictors especially in relation to nicotine dependence in singur, West Bengal.

### Materials and methods

#### Study design and setting

An observational, clinic based cross-sectional study was conducted for 2 months (July- august 2017) among adult male current smokers in the clinics of Anandanagar UPHC and Balitepa sub-centre under the purview of RHUTC, Singur, West Bengal.

#### Study participants

Adult male current smokers (age 18 years and above) attended the clinics and agreed to give informed written consent were enrolled in the study. Considering 2 days a week is allotted for data collection, a total no of days available for data collection were 16 days. Assuming that total time required to explain the purpose of the study and other ethical issues, taking consent, interviewing and attending to any query, it takes 15-20 minutes for each participant. Finally 123 subjects were interviewed in the scheduled time.

#### Study tool

Data were collected by interview using a pre-designed, pretested, structured schedule consisted of 2 parts.

In part 1 information regarding the socio-demographic characteristics and smoking pattern were recorded.

In part 2 of the questionnaire nicotine dependence was assessed by Fagerstrom test for nicotine dependence (FTND) questionnaire. This questionnaire has been extensively used in various countries, and its reliability has also been confirmed in different setting and populations.

#### Operational definition

Current smokers were defined as who were smoking at the time of survey and had smoked more than 100 cigarettes in their lifetime. Cigarettes, beedi, smoking pipes, cigars were considered as smoked products.[16]

Score less than 4, 4 to 6 and more than 6 in Fagerstrom test for nicotine

dependence was interpreted as low, medium, and high level of nicotine dependence respectively.[14,15]

**Data analysis**

Statistical package for social science (SPSS) version 16.0 was used for analysis of data. Measures of central tendency and dispersion were used to summarize numerical data and proportions to summarize categorical variables. Association between intention to quit and different variables were estimated in univariate and multivariable logistic regression. Odds ratio with 95% CI was computed. Explanatory variables found to be statistically significant in univariate logistic regression were entered into multivariable logistic regression. Ap-value of <0.05 was considered statistically significant.

**Results**

The study included 123 adult male smokers attending the clinic. The socio-demographic characteristics of the study subjects are depicted in Table 1. The mean age of study participant was 55.53 (+/- 17.88). Majority 44 (35.5%) of were in the age category of 55 to 72 year age group. 103 (83.7%) were living in a joint family. Most of the study participants were Hindus 109 (88.6%). Most of the study participants 59 (47.9%) had below primary education. 67 (54.5%) of the study subjects belong to class IV socio-economic class (according to modified B.G prasad's scale 2017).

**Table 1 : Distribution of study participants according to socio-demographic characteristics (n=123)**

Socio-demographic characteristics		No (%)	*Mean (+/- SD) #Median(IQR)
Age (in completed years)	18-36	21(17.0)	*55.53 (+/- 17.88) #58(44-68) Range =66
	37-54	29(23.6)	
	55-72	44(35.8)	
	72 and above	29(23.6)	
Religion	Hindu	109(88.6)	
	Muslim	14(11.4)	
Type of family	Joint	103(83.7)	
	Nuclear	20(16.3)	
Education	Illiterate	21(17.1)	
	Below primary	38(30.9)	
	Primary	32(26.0)	
	Middle school	21(17.1)	
	Secondary and above	11(8.9)	
SES ( According to Modified B.G Prasad's Scale 2017)	Class II (3127-6253)	16(13.0)	*1592.83(811.7) #1291.6(1000-1361.6)
	Class III (1876-3126)	29(23.6)	
	Class IV (938-1875)	67(54.5)	
	Class V (<938)	11(8.9)	

**Table 2: Distribution of study participants according to nicotine dependence (n=123)**

Nicotine dependence	No (%)
Low dependence (0-4)	38(30.9)
Medium dependence (4-6)	45(36.6)
High dependence (>6)	40 (32.5)

\*43.1 % of the study participants had intention to quit tobacco smoking

**Table 3: Univariate and multivariable regression of factors associated with intention to quit tobacco smoking (n=123)**

Variables	Intention to quit		OR (95% CI)	AOR (95% CI)
	Yes (No%)	No (No%)		

Age		-	-	0.98 (0.96-1.00)	-
Religion	Hindu	49(45.0)	60(55.0)	1.47(0.46-4.67)	-
	Muslim	5(35.7)	9(64.3)	1	
Type of family	Joint	46(44.2)	58(55.8)	1.09(0.40-2.93)	-
	Nuclear	8(42.1)	11(57.9)	1	
Education	Upto primary	22(30.6)	50(69.4)	1	1
	Middle school and above	30(61.2)	19(38.8)	3.28(1.54-6.98)*	3.04(1.32-6.98)*
PCI	Below 50th percentile	32(43.2)	42(56.8)	1	
	Above 50th percentile	22(44.9)	27(55.1)	1.06(0.51-2.21)	-
Nicotine dependence	Low and medium dependence	42(50.6)	41(49.4)	4.07 (1.72-9.62)*	3.85(1.52-9.73)*
	High dependence	12(30.0)	28(70.0)	1	1
Age of initiation	18 years	26(37.1)	44(62.9)	1	
	18 years	28(52.8)	25(47.2)	1.89 (0.91-3.91)	-
Duration of tobacco smoking	30 years	33(44.6)	41(55.4)	2.52(1.21-5.25)*	2.33(1.02-5.31)*
	>30 years	22(44.9)	27(55.1)	1	1
Previous H/O quit attempt	Yes	28(59.6)	19(40.4)	2.83(1.33-6.00)*	2.73(1.17-6.32)*
	No	26(34.2)	50(65.8)	1	1

Negelkerke R<sup>2</sup> =0.28

Hosmer& Lemeshow =0.54, \*p<0.05

From table 3, it is evident that higher educational status, low nicotine dependence, less duration of tobacco smoking and previous history of quit attempts were associated with intention to quit tobacco smoking in univariate logistic regression and association was statistically significant. All those variables associated with intention to quit were entered into multivariable logistic regression. After adjusting with other variables higher educational status, low nicotine dependence, less duration of tobacco smoking and previous history of quit attempts retained their significance in multivariable logistic regression. 28% of the variance of intention to quit tobacco smoking can be explained by this model (Negelkerke R<sup>2</sup> =0.28)

**DISCUSSION**

The present study showed that overall 43.1% were intended to quit smoking. A similar study conducted by Surani NS et.al. titled “Intention to quit among Indian tobacco users, shows intention to quit smoking was 32.5%.[17] This low quitting intention among smokers is due to several factors such as lack of public health campaigns that focus on the benefits of quitting tobacco, lack of smoking cessation programs that are available and the lack of available smoking cessation medications.

Our study showed that quitting became difficult with an increase in duration of use. Lower educational status of the study participants was associated with difficulty in quitting. Similar findings were recorded by a study conducted by Rosenthal et.al. This result can often be attributed to less knowledge and awareness regarding tobacco quitting among uneducated people. Education is an important factor to be considered in any tobacco control program.

People with low FTND score were found to be more interested to quit tobacco smoking in our study. Similar results were found in many other studies.[18,19,20] It implicates that higher level of nicotine dependence associated low intention to quit.

Our study showed that persons had a previous history of quit attempts were more intended to quit smoking than others as shown by Abdolahinia et.al.[12] These findings were likely due to differences in

smoker's readiness to quit, because past quitters who were already motivated may try again while smokers without prior attempts may simply not be ready to quit and therefore have no intention to quit. This suggests the need to motivate smokers to think about quitting by raising awareness of the benefits of quitting smoking.

### Strength

Various predictors affecting intention to quit were assessed by univariate and multivariable binomial logistic regression.

### Limitation

The study was cross-sectional in nature which limit the ability to determine the directionality of the relations and measure the dynamic processes of quitting and nicotine dependence. The generalizability in this context is limited by the clinical design. The data were collected from the interview of respondents which may be subjected to recall bias. People tend to provide socially desirable responses and there are differences in levels of perception of the question asked.

### Conclusion and Recommendation

Our data suggest being educated, less duration of tobacco use, previous h/o quit attempts and low nicotine dependency were important predictors of intention to quit tobacco smoking, which need to be explored using longitudinal studies. The low rate of quitting intention among adult smokers underscore the need for comprehensive policy initiatives that would encourage smokers to think about quitting. At the same time, the national tobacco control program should incorporate smoking cessation within its service framework.

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