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Predictors of Smoking Cessation Behaviour Of Health Professionals in Mangalore City.

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ABSTRACT

Medical practitioners play a leading role in prevention of tobacco usage in community, and also in development of public health policy. Unfortunately health professionals also become addicts of smoking; work load; boredom and tension are the major reasons for smoking among health professionals. A cohort of health professionals (n=378) of all the Medical and Dental colleges of Mangalore, were given questionnaire that included the Fagerström test for nicotine dependence, and the data was analysed using statistical tests and models. There was a significant difference in the mean age between those who had intension to quit. Significant association was found between nicotine dependence and intention to quit smoking. Participants who did not find it difficult to refrain from smoking in public places, had high intention to quit smoking. Participants who'd hate to give up cigarettes at any time had high intention to quit smoking; participants, who smoked 10 or less cigarettes per day, had high intention to quit smoking. The Fagerström test for nicotine dependence score seems to be a powerful tool for predicting smoking cessation behaviour, based on this effective cessation programs must be promoted to eradicate the problem of tobacco use among health professionals.

Keywords: Tobacco, Smoking, Fagerstrom test, Nicotine Dependence, Smoking cessation predictors and Health professionals

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INTRODUCTION

Tobacco has become an ever growing global menace and has emerged as the leading cause of death worldwide. The enhanced economic growth over the past few decades led to increased tobacco usage in India. It has been assessed that 26.2% males and 3.6% females of Indian population are smokers. Exposure to second-hand smoke is a concern for the population [1]. Smoking associated mortality has driven enormous efforts to understand and enhance smoking cessation; this in turn caused formulating an evidence based guidelines for behavioural, pharmacological management and promotion of smoking cessation in adults [2]. There is an ample evidence that health hazards linked with cigarette smoke can be reversed after an adequate period of abstinence, and attaining permanent abstinence is a chief public health goal for both developed and developing nations [3].

Smoking is a key issue in the health profession, as medical practitioners play a leading role in prevention of tobacco usage in community, and also in development of overall public health policy [4]. Tobacco usage and lack of training in smoking cessation counselling, among health professionals are the major barriers to educate patients about smoking cessation. Work load, boredom and tension are the major reasons for smoking among the majority of health professionals [5]. Doctors have an important, multifaceted role to play in tobacco control. They also serve as role models for healthy life style. Despite this fact, tobacco use has become an ingrained habit in a significant fraction of health professionals, although it is a smaller number than general population [6]. Doctors who are non-consumers of tobacco are ready to discuss the issue of tobacco consumption with their patients than doctors who are consumers of tobacco. Health professionals who are consuming tobacco lack the credibility on cessation [5].

Nicotine dependence (tobacco dependence) is an addiction to tobacco products caused by the nicotine. It alters mesolimbic system and causes temporary mood-altering effects in brain, which eventually results in dependence [7]. Severity of nicotine dependence has been an important predictor of smoking cessation. It is generally assessed by means of the Fagerström test for nicotine dependence (FTND), a straightforward six item questionnaire, whose results are expressed as scores ranging from 0 to 10, the highest score indicating a very high level of nicotine dependence [8].

It is generally assumed that healthcare providers are equipped with adequate knowledge about ill effects of tobacco smoking, and their abuse of tobacco would be hypocritical. This however, doesn't seem to be the case, and this study aims to explore the predictors of smoking cessation behaviour among health professionals. Although various studies have been conducted in India about prevalence of tobacco use, but detailed studies in reference to predictors of smoking cessation, especially with nicotine dependence is very rare [7]. This study explores the applicability of the predictors of smoking cessation behaviour among health professionals with reference to nicotine dependence.

MATERIAL AND METHODS

Study design: Cross-sectional study
Study setting: A total of 12 Medical and Dental colleges in Mangalore.
Study population: Health professionals (Faculty and post graduate students) who were smokers at the time of survey and at least had smoked more than 100 cigarettes.

Study Duration: Two months (June & July, 2015)

Sampling method: Simple random sampling i.e. lottery method was followed. A total of 378 sample was reached.

Data collection: A self-administered, pre-designed and pre-tested proforma was used to collect the data [8].

Inclusion criteria: Health professionals who consented to be a part of the study, with assurance of complete anonymity.

Exclusion criteria: Those who refused to give consent to be a part of the study; those who submitted

incomplete questionnaires.

Informed Consent: Ethical clearance was obtained from the Institutional Ethics Committee before commencement of the study. Study participants were given a query sheet along with the consent forms, which contained all the information about the study and its implications. Questionnaires were given only after obtaining the filled consent forms. The participants were assured complete anonymity and the questionnaires obtained were kept confidential.

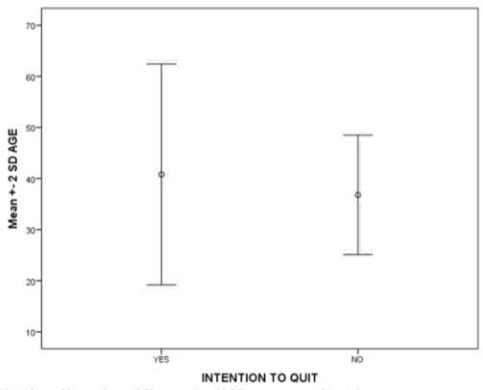
Study tools: A pre-designed and pre-tested questionnaire was used to collect the appropriate information, which included the Fagerström test for nicotine dependence questionnaire to assess the nicotine dependence [8].

Statistical analysis: The data was analysed using SPSS 22.0. Descriptive statistics like mean (SD) was reported for continuous variables, frequency (percentage) for categorical variables. Chi-square test was applied to find out the association between two attributes. Unpaired't' test was used to compare mean ages against intention to quit smoking. A logistic regression model with intention to quit (Yes/No) as dependent variable was used, to find out the risk factors associated with it. Statistical significance was set at ($p < 0.05$).

RESULTS

Among the participants, 216 (57.4%) had the intention to quit smoking, and the rest 161 (42.6%) didn't have the intention to quit smoking; there was a significant difference in the mean age between those who had intention to quit (p value <0.001). Mean age of the study participants who had the intention to quit smoking was 40 years, those who didn't have the intention to quit was 36 years (Fig: 1).

Figure 1: Graph representing the mean ages of the study participants against their intention to quit smoking.



There was a statistically significant difference in the mean age between those who had p-value <0.001

Results of FTND score is, 28 participants were in the low dependence category; 140 participants were in the low to moderate dependence category; 196 participants were in moderate dependence category; 14 participants were in high dependence category (Table:1). There was a statistical significant association between nicotine dependence and intention to quit smoking (p-value <0.05), 21 participants (75%) in the low dependence category had the intention to quit smoking; 77 participants (55%) in low to moderate dependence category had the intention to quit smoking; 105 participants (53.6%) in moderate dependence category had the intention to quit smoking; 14 (100%) participants in high dependence category had the intention to quit smoking (Table: 1).

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Table 1: Depicts association between Nicotine Dependence based on the Fagerström Score and Intention to quit smoking

CHI-SQUARE TEST			Intention to Quit Smoking			Chi-Square/ P-value
			Yes	No	Total	
Nicotine dependence based on respective Fagerström Scores	Low Dep.	Count	21	7	28	15.443/ 0.001
		Percentage	75.0%	25.0%	100.0%	
	Low to Mod	Count	77	63	140	
		Percentage	55.0%	45.0%	100.0%	
	Mod Dep.	Count	105	91	196	
		Percentage	53.6%	46.4%	100.0%	
	High Dep.	Count	14	0	14	
		Percentage	100.0 %	0.0%	100.0%	

There was a statistically significant association between nicotine dependence and intention to quit smoking (P-value <0.05).

Results of intention to quit smoking and its predictors, participants who did not find it difficult to refrain from smoking in public places, had 1.210 more times intention to quit smoking, compared to those who had difficulty. Participants who'd hate to give up cigarettes at any other time, had 1.789 more times intention to quit smoking, compared to those who'd hate to give up the first cigarette in the morning. Study participants who smoked 10 or less cigarettes per day, had 1.143 more times intention to quit smoking, compared to those who smoke 31 or more per day. Study participants who smoked 11-20 cigarettes per day, had 2.250 more times intention to quit smoking, compared to those who smoke 31 or more per day. Study participants who smoked 21-30 cigarettes per day, had 1.429 more times intention to quit smoking, compared to those who smoked 31 or more per day (Table: 2).

Table 2: Depicts Logistic Regression Analysis of Intention to Quit Smoking and Risk Factors listed in the Fagerström Questionnaire. # - Fagerström Test for Nicotine Dependence.

FACTORS INCLUDED IN THE FTND#		ODDS RATIO	CONFIDENCE INTERVAL (OR)	P-VALUE
Difficulty to refrain from smoking in public places	Yes	1	0.753-1.945	0.004*
	No	1.210		
Frequency of Smoking	Daily	1	0.418-1.017	0.065
	Occasionally	0.652		
The cigarette they'd hate to give up	The first in the morning	1	1.146-2.794	0.010*
	Any other	1.789		
Number of Cigarettes smoked per day	10 or less	1.143	0.435-2.999	0.004*
	11-20	2.250	0.848-5.972	
	21-30	1.429	0.523-3.905	
	31 or more	1		
Higher frequency of smoking in the morning	Yes	1	0.394-0.932	0.023*
	No	0.606		
Smoking even if sick	Yes	1	0.561-1.304	0.468
	No	0.856		

DISCUSSION

In a study conducted by Islam K. et al, [7] it was observed that majority of tobacco users who had the intention to quit were comparatively younger, contrary to which, our study showed that the mean age of the study participants who had the intention to quit smoking was 40 years. In a study conducted by Abdolahinia et al, [9] it was reported that mean age of initiation of tobacco use was higher among quitters.

The study conducted by Rosenthal et al, [10] showed that less education was associated with difficulty in smoking cessation. In contrast to this, the study conducted by Rafful et al, [11] showed that less education was associated with successful cessation. In the present study, despite of being in the medical profession, equipped with adequate knowledge; study participants had less intention of cessation. Hence education may not be good predictor for assessing smoking cessation behaviour.

This study also revealed that mean FTND score was higher for those participants who did not have the intention to quit smoking. In low nicotine dependence category, 75% of participants had the intention to quit smoking which is the highest of all categories. This is in accordance to another study which reported that individuals with lower FTND scores are more interested in smoking cessation [12]. This shows that 'Nicotine Dependence' could be a possible predictor of smoking cessation behaviour.

Those individuals, who do not find it difficult to refrain from smoking in public places, have a higher intention of smoking cessation. Those individuals who wouldn't mind giving up the 'cigarette in any other time' have a higher intention of quitting smoking, individuals who smoke 20 or less cigarettes per day have a higher intention of smoking cessation, hinting that these parameters may help in assessing the behaviour of smoking cessation participants.

CONCLUSION

This study documents the behaviour of health professionals towards smoking cessation with reference to nicotine dependence. The findings of this study are in congruence with those found in previous studies, showing that health professionals, despite of their knowledge and awareness of the ill effects of tobacco abuse, are becoming victims. The FTND score seems to be a powerful tool for predicting smoking cessation behaviour, based on this effective cessation programs must be promoted to eradicate the problem of tobacco use among health professionals.

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