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Original Research Article

Smoking cessation practices and perspectives among in-patients in a tertiary teaching hospital setting

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ABSTRACT

Background: The objective of the present study was to assess the in-patient's perspectives about smoking cessation and the services they received.
Methods: A descriptive study was carried out in a hospital attached to a Medical College. An interview schedule was administered in person to in-patients to assess their perspectives towards smoking cessation and services received.
Results: Of the 141 in-patients interviewed, 40% were active smokers. Almost 3/4th of active smokers had moderate to high nicotine dependence. About 92% of active smokers reported being asked about smoking status and being advised to quit, but only 23% received assistance, and 8% had a follow-up arranged. Health was the top reason for the willingness to quit. Around 90% of study participants had no awareness about tobacco cessation centres and services.
Conclusions: An in-patient setting has a higher proportion of smokers than the general population. These in-patients should be a prime target for cessation programs as there are relatable health reasons and opportunity for the delivery of comprehensive smoking cessation services based on 5 A's protocol, which is currently lacking. Creating better awareness regarding smoking cessation centres and services available is necessary.

Keywords: Smoking, Cessation services, In-patients

INTRODUCTION

Smoking has been established as a risk factor for premature morbidity and mortality. Smoking is a leading risk factor for six out of the top ten global causes of deaths, in 2016.[1] In India, an estimated one million deaths/year were attributable to tobacco smoking in the first half of this decade, in the age group of 30-69 years.[2-4] The total economic costs due to tobacco use, from all diseases in India in the year 2011 for persons aged 35-69, amounted to Rs. 1,04,500 crores (US$ 22.4 billion), of which 16% was direct cost and 84% was indirect cost.[4] Despite this, the prevalence of current tobacco smokers in India is 10.6% of adults. The number of daily smokers in India in 2015 was 100 million.[5]

Quitting smoking has shown to improve health and life expectancy. Though it is difficult to quit smoking, primarily because of its addictive nature.[6] Studies have shown that only 3-5% of self-quitters achieve prolonged abstinence for 6-12 months after a given quit attempt.[7] Thus, the role of healthcare providers in smoking cessation is essential. Every healthcare visit is an opportunity to asses, emphasise and aid smokers to quit. Furthermore, in-patients allow for a unique opportunity as they are in a smoking free environment and with help available. Thus, this study made an effort to assess the patient's perspectives about smoking cessation, and the services they received in an in-patient setting, in a tertiary care teaching hospital in India.

METHODS

A descriptive study was carried out in JSS hospital which is attached to a Medical College in Mysuru City. The oral interview schedule was conducted among 141 in-patients, who were selected in random from specialities of medicine, surgery, pulmonology, ENT and orthopaedics. All the 141 in-patients interviewed were males, as the prevalence of tobacco smoking is generally much higher for men (16-24%) compared to women (2-3%) in India.[2,5,8] Participants had to be 18 years or older to be included in the study. In-patients who were in critical care units and day care units were excluded.

They were administered oral interview schedule in person. The interviews took place from July 2013 to September 2013. It consisted of general details (such as name, age, sex and occupation), disease status if any and smoking status. Smokers (active and former) were further interviewed regarding their smoking habits including tobacco product smoked, number and duration of smoking. The services they received regarding smoking cessation were assessed using the 5 'A's.[6] Details regarding time spent by the doctor towards cessation activities, pharmacotherapy advised and type of counselling they received, if any, were asked. Patient's perspectives towards smoking cessation such as quit attempts, reasons for quitting or attempting to quit smoking, current willingness to quit among active smokers, awareness regarding the presence of tobacco cessation centres was assessed. Nicotine dependence was assessed using the Fagerstrom Nicotine Dependence Scale for active smokers.

Active smoker was defined as an individual who has smoked at least 100 cigarettes or beedis in their lifetime and currently smokes on at least some days. Former smoker was defined as someone who has smoked greater than 100 cigarettes or beedis in their lifetime but had successfully abstained from smoking for the past six months or longer, at the time of interview. Quit attempt was defined as having stopped smoking for one day or longer with the intention of quitting.

Ethical clearance was obtained from the Institutional Ethics Committee of JSS Medical College, Mysuru. Free and informed consent was obtained from all individual participants included in the study before administering the interview schedule. Descriptive statistics like proportion (percentage) for nominal and categorical data was calculated. Median and Interquartile range was calculated for the average number of beedis or cigarettes smoked per day. To test the association between categorical variables Chi-square test was applied and $p<0.05$ was considered to be statistically significant. The analysis was performed with SPSS statistical software version 22.

RESULTS

Mean age of the study participants was 48.078±14.74 years. Majority of them were from departments of Medicine (40%), Surgery (25%), Pulmonology (20%), and with the rest from the departments of Orthopaedics and ENT. Majority of them were farmers (44.68%) by occupation. Around 10.6% were diabetics, 14.1% suffered from cardiac disease, and 24.11% of admitted had respiratory problems. Out of the 141 in-patients in the study, 40% were active smokers, and 34% were former smokers (Table 1).

Table 1: Patient profile and smoking status.

Variable	Categories	Frequency	%
Age (in years)	<20	2	1.42
	21 to 40	50	35.46
	41 to 60	60	42.55
	>60	29	20.56
Co-morbidities	Diabetes related	15	10.63
	Cardiac related	20	14.18
	Respiratory related	34	24.11
	CNS related	2	1.42
	Others	11	7.80
Smoking status	Active smoker	56	39.72
	Former smoker	48	34.04
	Never smoked	37	26.24

Among the active smokers, 61% smoked beedis, 30% smoked cigarettes, whereas 10% smoked both. A similar trend was seen among the former smokers too. Among the active smokers, nearly half (48%) said that they smoked 20 to 50 beedis or cigarettes per day compared to 42% of the former smokers who did so. The median number of beedis or cigarettes smoked per day for the active smokers' group was 20±15 (IQR), and the former group was 24±15 (IQR). Interestingly, the locally available beedi brands in the city used by the participants are sold as a pack containing 25 beedi sticks each. More than 2/3rd of both active and former smokers said they had smoked for more than ten years. The overall mean duration of smoking for active smokers was 21.65±12.56 years, and for former smokers was 20.42±13.78 years. Among the active smokers, 39% showed moderate dependence, 36% showed high dependence, and the remaining 25% showed low dependence. No major difference was observed between active and former smokers concerning with type, amount and duration of smoking (Table 2).

Smoking cessation related services received by active and former smokers are presented in figure 1 and table 2. Average time spent by physicians with patients discussing to quit smoking at each visit was around two minutes. While 20% spent between 2-5 minutes, 34% spent less than 2 minutes, whereas 13% spent 5 to 10 minutes discussing quitting smoking with patients. Even though 92% of active smokers (n=56) reported being asked about tobacco use, only 23% of active smokers received assistance to quit, and 8% had a follow-up arranged. In comparison, 70% of former smokers (48) reported being asked about tobacco use, with 41%

receiving assistance to quit and 18% having a follow-up arranged. More active smokers (78.5%) said that they received counselling towards cessation in comparison to former smokers (60.8%), but the former smokers group (28.57%) reported higher offering of intensive counselling or motivational counselling compared to active group (11.36%). In this study even though a higher percentage of former smokers received intensive or motivational counselling compared to active smokers, it was not statistically significant (p=0.0594).

Among the active smokers, around 36% attempted to quit smoking, with 70% of them reporting to have tried 2 to 5 quit attempts.

Table 2: Smoking pattern and nicotine dependence among study subjects.

Variable		Active smoker (n=56)		Former smoker (n=48)	
		Frequency	%	Frequency	%
Smoke	Cigarettes	17	30.36	13	27.08
	Beedis	34	60.71	30	62.5
	Both	5	8.93	5	10.42
Number of beedis or cigarettes per day	<10	19	33.93	12	25
	11 to 20	9	16.07	10	20.83
	20 to 50	27	48.21	20	41.67
	>50	1	1.79	6	12.5
Number of years of smoking	<10	16	28.57	14	29.17
	11 to 25	22	39.29	20	41.67
	25 to 40	14	25	10	20.83
	>40	4	7.14	4	8.33
Dependence*	Low	14	25		
	Moderate	22	39.29		
	High	20	35.71		

*: Fagerstrom nicotine dependence scale.

Table 3: Smoking cessation related services received by study participants.

Services received	Active smoker			Former smoker			Never smoked		
	N	*f*	%	N	*f*	%	N	*f*	%
Patients who were asked about tobacco use status (Ask)	56	52	92.85	48	34	70.83	37	16	43.24
Patients assessed for readiness to quit tobacco use (Assess)	52	36	69.23	34	22	64.71	Not applicable		
Patients who were advised to quit tobacco (Advise)	52	48	92.31	34	30	88.23			
Patients assisted towards a quit attempt (Assist)	52	12	23.07	34	14	41.17			
Patients for whom follow-up contact was arranged (Arrange)	52	4	7.69	34	6	17.64			
Patients who were advised pharmacotherapy	52	4	7.69	34	1	2.94			
Patients offered counselling towards tobacco cessation	56	44	78.57	46	28	60.86			
Brief counselling	44	38	86.36	28	19	67.85			
Intensive counselling	44	5	11.36	28	8	28.57			
Support group	44	1	2.27	28	1	3.57			

Among the former smokers, 54% said they failed on the first attempt to quit, with 69% of them reporting success on their second attempt. About 60% of active smokers said that they were currently willing to quit smoking. Health was the top reason for the willingness to quit or successful quitting among both active (88%) and former (67%) smokers. Interestingly, only about 1/5th of both active and former smokers thought that a doctor was of most assistance. Just over 90% of the study participants were not aware of tobacco cessation centres and services. (Table 4 and Figure 2).

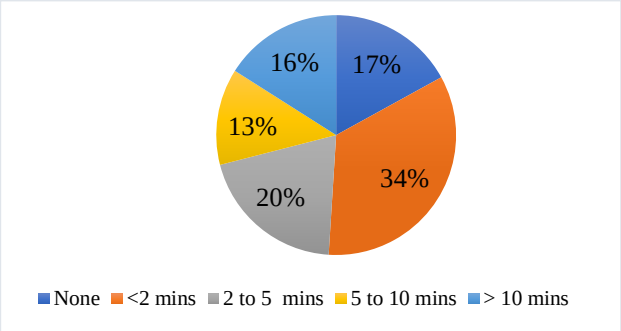

Figure 1: Time spent by doctor related to tobacco cessation (in minutes) (n=104).

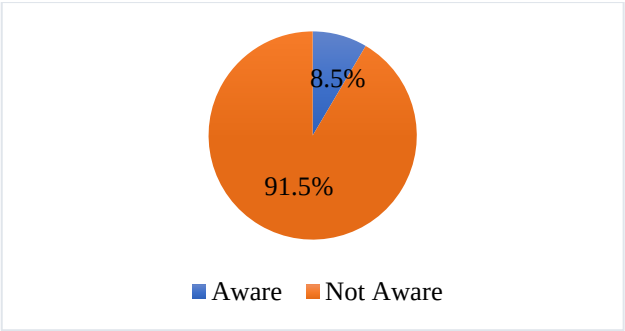

Figure 2: Awareness regarding presence of tobacco de-addiction centres (n=141).

Table 4: Patients perspective towards tobacco cessation.

	Active smoker			Former smoker		
	N	**Frequency**	**%**	**N**	**Frequency**	**%**
Patients with at-least one unsuccessful quit attempt	56	20	35.71	48	26	54.17
No. of previous unsuccessful quit attempts						
One attempt	20	6	30	26	18	69.23
2-5	20	14	70	26	6	23.08
>5	20	0	0	26	2	7.69
Currently willing to quit (yes)	56	34	60.71	Not applicable		
Reasons for quitting or willing to quit smoking						
Health reasons	34	30	88.24	48	32	66.67
Social reasons	34	1	2.94	48	7	14.58
Financial reasons	34	0	0	48	3	6.25
Health and social	34	3	8.82	48	6	12.5
Who do you think is of most assistance to you to quit smoking?						
Self	56	42	75	48	33	68.75
Family	56	15	26.78	48	16	33.33
Doctor	56	11	19.64	48	9	18.75

DISCUSSION

Tobacco smoking harms both the health and wealth of the individual, as well as of the country. In-spite of this, the truth is that smoking tobacco is very easy to start and get addicted to, but it is tough to quit. Thus efforts need to be made to reverse this trend, where starting is made difficult through education and laws, and those who are already smoking tobacco have proper assistance to quit. Medical care providers have a crucial role to play in the latter part. Beedi is a native tobacco product, containing 0.2 to 0.3 g of tobacco flake wrapped in a temburini (*Diospyros melanoxylon*) leaf. Beedis contain three times more nicotine and five times more amount of tar than the regular cigarette.[9]

In an in-patient hospital setting, as seen in this study, the proportion of active smokers is higher (39%) than the general population, and many of those who quit (66%) or were willing to quit (88%) identified health as the most important reason for their decision. Other studies have also identified health as an important reason for quitting among smokers.[10,11] This presents a unique opportunity for smoking cessation activities.

Among the active smokers, around 36% attempted to quit smoking, with 70% of them reporting to have tried 2 to 5 quit attempts. In comparison, a study published by Borland et al, the ever-quit rates varied from just over 50% to under 90% across 15 countries.[12]

Even though over 90% of the active smokers in the study said that they were asked and advised to quit smoking, only 1 in 5 were assisted and only 1 in 10 received intensive or motivational counselling. This higher level of performance with ask and advise, compared to a lower level of performance when it comes to assist and arrange follow-up, is consistent with other studies.[13,14] Thus, even though efforts to quit tobacco use have increased, successful quitting remains low. Interestingly only 1/5th perceived doctor could be of assistance to help them quit. This observation could be explained by that 90% of participants had no awareness regarding presence of tobacco cessation centres, and the counselling and pharmacotherapy that is available. This lack of

knowledge hampers their ability to ask for help to quit, as they assume that it is up to them to quit.

Among the former smokers, 54% said they failed on the first attempt to quit, with 69% of them reporting success on their second attempt. About 60% of active smokers said that they were currently willing to quit smoking. This is similar to a study done by Islam et al (63.3%), although it was higher than in a study by Surani et al (35%).[15,16]

A Cochrane meta-analysis (Nicola Lindson-Hawley et al) showed that motivational interviewing delivered by general practitioners or in a general practice setting might deliver higher success rates.[17] A similar meta-analysis by Lancaster et al showed a small increase in success rates with intensive counselling compared to brief counselling.[18]

Smoking is not just a habit but chronic addictive relapsing disorder.[19,20] This is evident with 75% of smokers in the study showing moderate to high nicotine dependence, and multiple unsuccessful quit attempts. Thus, it needs to be treated like one, with proper counselling, pharmacotherapy and regular follow-up. The services need to be patient centric.[21] More tobacco cessation centres are needed, and better awareness needs to be created regarding smoking cessation and services available for the same, among medical care providers and the general population.

This study is patient-centric and looks into in-patient's practices and perspectives towards quitting smoking. However, all the participants were men, and the findings may not be applicable to women who smoke. Also, outpatient encounters were not included. This study was conducted in a teaching tertiary care hospital, and the findings may not necessarily reflect other in-patient settings.

In-patients should be a prime target for smoking cessation programs as there are relatable health reasons from smoking, ample time for intensive/motivational counselling, opportunity for starting therapy under supervision and expertise, and chance to follow-up on a quit attempt when they come back for follow-up of their primary illness, which is currently lacking. Training of healthcare professionals and public awareness regarding comprehensive smoking cessation services is necessary to increase successful outcomes.

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