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Original Research Article

Effectiveness of counselling for tobacco cessation at the time of pre anaesthetic check up

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Abstract

Introduction: The number of tobacco users in our country is frightening and hence forth every possible intervention shall be used to try controlling the demon of tobacco. Every visit to hospital either as outdoor or admission shall be treated as an opportunity for tobacco cessation. In our study, we have tried to assess the utility and effectiveness of counselling at the time of pre anaesthesia check-up in patients undergoing elective surgeries as a tool for tobacco cessation.

Materials and Methods: Two groups were made on the basis of whether intervention given in form of counselling at time of routine PAC for patients undergoing elective surgery. Both groups were assessed for various demographical characteristics, including nicotine dependence, quitting history. Group 1 was given a session of interactive counselling regarding ill effects of tobacco usage and provided access a helpline number of institutional tobacco cessation clinic. Six months after intervention and surgery, both groups were questioned about their smoking status and statistical methods were used to calculate the difference of outcomes, namely tobacco cessation and decrease in tobacco usage.

Result and Discussion: The current study brought forth the fact that smokers or SLT users who are motivated or volunteers to take participation in cessation programme are more likely to successfully abstain from smoking. Age, Gender and educational status are major determinants in outcome of any tobacco cessation programme. The timing of counselling also plays a vital role in success of any counselling session. Hence forth, it is highly advisable to use this golden opportunity for counselling and advising the patient to abstain from using tobacco in any form.

Introduction

India is unique in a sense to harbour the maximum number of tobacco users in the world. Tobacco usage is so engrained in our society that it is accepted and not taken as an evil habit as per the GATS (Global Adult Tobacco Survey 2016-17)[1] 42.4% of men, 14.2% of women and 28.6% (266.8 million) of all adults currently use tobacco (smoked and/or smokeless tobacco). Out of these 19.0% of men, 2.0% of women and 10.7% (99.5 million) of all adults smoke tobacco either in popular form as cigarette or indianised form as beedi or other indigenous methods of smoking tobacco like hookah, burning tendu leaves. Malson et al concluded in their study that Beedi contain higher concentration of nicotine than conventional cigarettes.[2] Another aspect of tobacco usage more common in rural areas is usage of smokeless tobacco and data is equally discouraging for smokeless tobacco also 29.6% of men, 12.8% of women and 21.4% (199.4 million) of all adults currently use smokeless tobacco.[1]

The number of tobacco users in our country is frightening and hence forth every possible intervention shall be used to try controlling the demon of tobacco. Every visit to hospital either as outdoor or admission shall be treated as an opportunity for tobacco cessation. In our study, we have tried to assess the utility and effectiveness of counselling at the time of pre anaesthesia check-up as a tool for tobacco cessation.

A cohort study was designed with two comparison groups. One group comprised of patients willing to undergo tobacco cessation intervention at time of PAC, whereas second group refused for same.

The current study was an attempt to apprise the physicians and clinicians the value of every possible window during hospital stay for tobacco cessation. We focussed on PAC as an opportunity for counselling to abstain from smoking.

Aims and Objectives

Primary Objective

1. To evaluate the effectiveness of counselling at time of routine pre anaesthetic check up as a tool for tobacco cessation in tobacco users posted for elective surgeries

Secondary Objectives

1. To find the demographical characteristics of smoker/ SLT users in terms of age, gender, family history, annual household income, education, marital status.

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2. To gather information about nicotine dependence and quitting histories among participants.
3. To find the prevalence of associated co morbidities in smoker/ SLT users posted for elective surgeries.

Methodology

We planned to study the effectiveness of the counselling at the time of PAC as a tool for tobacco cessation at a tertiary care teaching hospital in Delhi. Surgery case list was generally exhaustive with all kind of surgeries being done at this centre. The study was conducted throughout October 2008 to September 2009. The Institutional ethical committee approved the study protocol, and written informed consent was obtained from patients eligible and willing to participate. A cohort study design was used to assess the cessation outcome after intervention at time of routine pre anaesthetic check up.

At time of admission, PAC registration interns identified patients who were current smokers/SLT users and informed them about the current study.

Inclusion Criteria

1. Patients older than 18
2. Patient undergoing elective surgery
3. Patient giving informed consent

Two groups were made. First group (Called Group 1 in our study from now onwards) comprised of patients consented to participate and were willing to undergo the intervention in prescribed format and the second group (Called Group 2 in our study from now onwards) consented to be part of the study but unwilling for any intervention as for now. All patients of both groups who provided consent filled out a baseline survey assessing demographics (age, gender, household income, education, marital status), smoking/SLT characteristics (age started, years of smoking/ tobacco usage, average number of cigarettes smoked in the previous week), other forms of tobacco usage, nicotine dependence (assessed with the Fagerstrom test),[3] and cessation history (number of past quit attempts, prior treatment for nicotine dependence, and previous use of NRT).

For those willing to undergo intervention (Group 1), the counselling was delivered by internist who had been trained in delivering a brief smoking cessation intervention. The session consisted of clear and categorical statement in vernacular language concerning the benefits of not smoking, providing the pamphlets containing the pictures showing the ill effects of usage of tobacco (developed by the Tobacco cessation clinic at the institute), and access to telephone smoking cessation help line at institute.

Approximately two weeks after the surgery date, the counsellor called Group 1 participants to discuss any pertinent issues regarding tobacco and smoking cessation and to remind them about the self-help pamphlets and the telephone help line.

Six months after surgery, staff member telephoned patients of both Group 1 and Group 2 to assess the two outcome measures, current smoking status and quit attempts. Six attempts were made to contact participants by telephone before the patient was considered lost to follow-up.

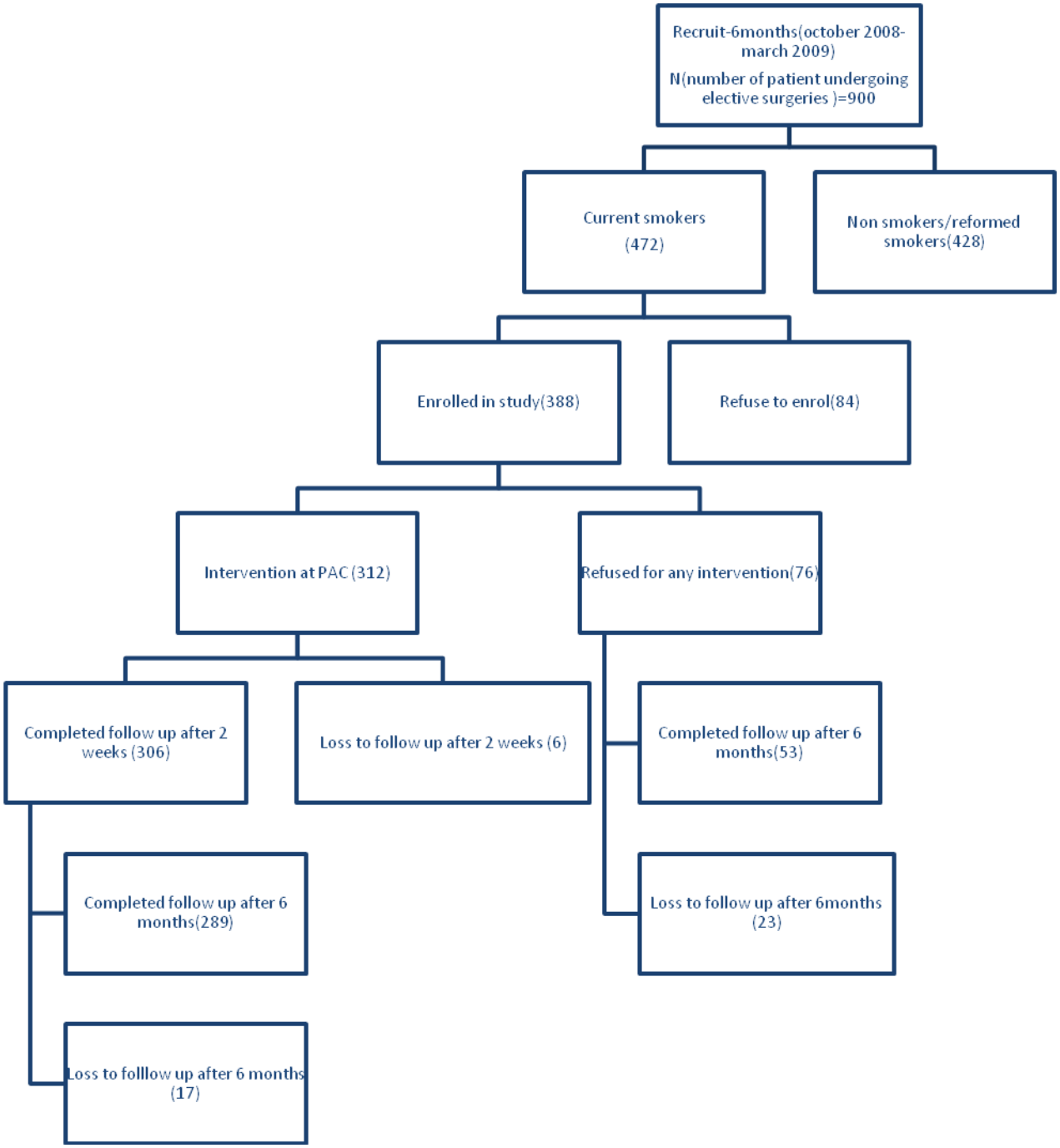
Algorithm, tables, and graphical representations were used to summarize patient baseline demographics and smoking status. A cohort design assessed outcomes in each group in convenience samples of patients enrolled consecutively over the 6 month recruitment period. All comparisons were conducted using Student's t tests for continuous variables and Chi square analyses for categorical variables. P values ≤ 0.05 were considered as statistically significant. Data management and statistical analyses were completed using the Statistical Package for the Social Sciences (SPSS).

Result

The results of current study were tabulated.

Table 1: Demographic characteristics of participants (Group 1+ Group 2)

	Group 1 (n=312)	**Group 2 (n=76)**
Age in years Mean (SD)	Male -- 47.6 (14.5) Female – 51.6 (17.5)	Male – 56.3 (17.07) Female – 53.6 (17.39)
Sex in (%) Male Female	 177 (56.7%) 135 (43.3%)	 56 (77.8%) 20 (22.2%)
Annual household income (%) < 1 Lac 1-3 Lacs 3-10 Lacs > 10 Lacs	 37 (11.8%) 49 (15.7%) 149 (47.8%) 77 (24.7%)	 5 (6.6%) 11 (14.5%) 35 (46.1%) 25 (32.9%)
Education n % Matriculation or less Bachelor degree Post graduate degree or more	 37 (11.8%) 99 (31.7%) 176 (56.4%)	 3 (3.9%) 26 (34.2%) 47 (61.8%)
Marital Status (%) Unmarried Married Divorced	 121 (38.8%) 134 (43.2%) 57 (18.3%)	 11 (14.5%) 59 (77.7%) 6 (7.9%)



Algorithm 1: Recruitment of study participants

Table 1 shows various demographics characteristics of all the smoker/ SLT users enrolled and gave consent to participate in current study. This included both the group 1 (Agreed to counselling) and Group 2 (Refused to receive any counselling at time of PAC). Mean age of male in Group 1 patients was found to be 47.6 years whereas in females, in same group, it was calculated as slightly higher at 51.6 yrs. In contrast to Group 1, males (56.3 Years) had higher mean age group in Group 2 as compared to females (53.6 Years).

In our study, out of 388 who consented to be part of current study 60% were males and major chunk of participants belonged to group with annual household income being within ₹ 3-10 lacs.

Educational status and marital status were also noted. Maximum participants were married (49.7%) and had post graduate degree (57.5%) or more.

The above table shows that maximum number of participants in group 1 was using 21-30 cigarettes/Beedi/SLT in last week and it was similar for group 2. Henceforth it could be concluded that both the groups had similar prevalence of tobacco usage. In group 1 23% of participants had used NRT in some form at least once as compared to group 2 only 5% participant had used the same for the purpose of tobacco cessation. Using fagerstrom test for nicotine dependence it was found that the mean was more for group 2 as compared to group 1 suggesting group 2 participants were more dependent and addicted tobacco usage. In contrast mean quit attempts were slightly more in group 1 suggesting that they were more motivated towards deaddiction themselves.

Table 2: Tobacco (Smoker and Smokeless) usage and quitting histories among participants

	Group 1(n=312)	**Group 2(n=76)**
Cigarettes/ Beedi smoked/ SLT used in last 7 days		
≤5	44	3
6-10	54	6
11-20	62	14
21-30	93	32
31+	59	21
Ever used the NRT (%)		
No	287(77.1%)	72(94.7%)
Yes	25(22.9%)	4(5.3%)
Nicotine Dependence Mean	4.8	5.7
Quit attempts Mean	3.4	3.1

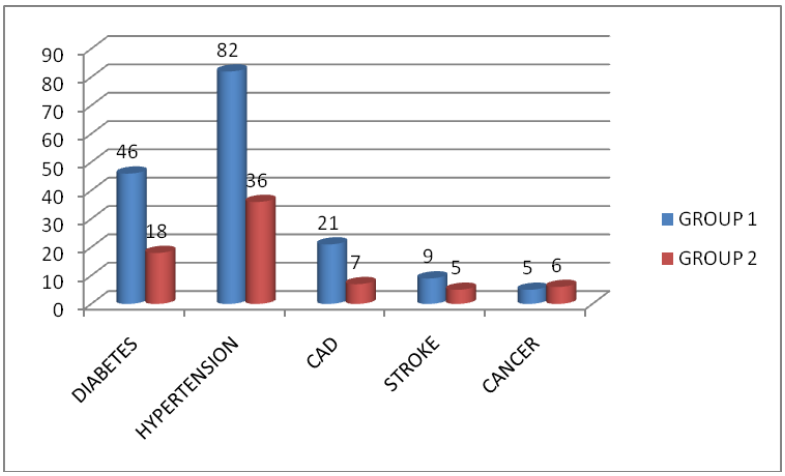


Fig. 1: Dual bar chart giving information about common existing illness among tobacco user in both groups.

Table 3: Tobacco usage status at six months after intervention in Group 1 and no intervention in Group 2 using a questionnaire

	Group 1		**Group 2**		**Chi-square**	**P value**
	Yes	**No**	**Yes**	**No**		
Are you successful in quitting tobacco usage?	98/289 (33.9%)	191/289 (66.1%)	3/53 (5.6%)	50/53 (94.4%)	17.17	0.000034
If not, are you keen to participate in tobacco cessation programme	166/191 (86.9%)	25/191 (13.1%)	13/50 (26%)	37/50 (74%)	76.94	<0.000001
Are you able to cut down on your tobacco usage in last 1 month?	145/191 (75.9%)	46/191 (24.1%)	4/50 (8%)	46/50 (92%)	77.445	<0.000001
Have you called institutional helpline number given to you?	280/289 (96.9%)	9/289 (3.1%)	NA	NA	NA	NA

After 6 months of enrolment of participants in the current study, a questionnaire was given to all the participants not lost in follow up. It was calculated that there was significantly high success rate in tobacco cessation in Group 1. Similarly, Group 1 participants had cut down their smoking habits more proficiently than Group 2 and were keener to join tobacco cessation programme.

Discussion

It is very evident from various studies that Nicotine is regarded as the most addictive substance known to mankind; with that it has serious detrimental effect on almost each organ system. To understand the reason why certain individuals fell prey to tobacco addiction and are unable to quit the habit, we need to understand the natural course of this addiction.

The mean age in Group 1 participants was found to be 49.3 years which was slightly lower than Group 2 where it was 55.5 years. In similar study done by R. Sachs et al, the mean age in tobacco users was calculated as 53.2 years.[4] It may be deduced to certain extent that younger people with lesser duration of smoking history are keener to go for cessation programme.

The male female ratio in our study was 1.3: 1 in Group 1 as compared to nearly 3:1. This was in contrast to a study conducted by Prakash C Gupta in 1996 which said that female were more involved in tobacco usage.[5] An original paper published in JAMA (2014) suggested that since 1980 there is significant reduction in daily smoking but there is increase in number of smokers due to manifold increase in population.[6] Our study suggested that females are more responsive to at least attend the counselling session for tobacco cessation.

As our centre of study was a private teaching institute where patient were to pay for hospital services, the majority of participants (57.4%) were post graduates or more and had good socio economic status (73.7%) with annual household income more than 3 lacs. A similar study published in journal Tobacco Control 2003 had almost similar demographics characteristics.[7]

We have used Fagerstrom test for Nicotine dependence to find the degree of addiction and as expected the mean value was higher in Group 2 as compared to Group 1. A study done by Juan Chen et al had also similar mean value for Nicotine dependence.[8]

It is of paramount importance to know the psyche of tobacco user and to identify the phases in smoker/SLT user life where the user is more receptive to the counselling and is ready to enter the tobacco cessation programme.[9] Barzilai DA, et al suggested that counselling for tobacco cessation augments the probability of abstinence.[10] An article published in Clinics in Chest Medicine in 1991 divided the process of tobacco de-addiction in various stages.[11] Another review article suggested that smokers in preparation stage are more likely to quit as compared to those in pre-contemplation or contemplation phases.[12] Certain such points in life of smokers/SLT user which have been proposed by researcher team at our institute are following:

1. Just before and after marriage
2. At time of birth of kids especially first
3. Every OPD visit to clinician
4. At time of hospitalisation especially for tobacco related diseases like heart attack, PAD, TIA, stroke
5. At time of surgery
6. Hospitalisation/Mortality of close relatives due to tobacco related diseases.

In this study, we try to focus on psychological preparation of the smoker.[13] We are trying to understand and assess the utility and effectiveness of the counselling and non pharmacological measures, if done, at time of PAC (Pre Anaesthetic check up). We have deduced that at time of PAC patients show more readiness to enter the anti tobacco programme. The fact that he/she has been told by PAC clinician that he/she shall require more time to be fit for elective surgery as compared to non tobacco users, carries more chances of intra operative and post operative complications, more chances of failure of surgery and all these are because of his/her smoking/SLT habits is the reasons for increased receptiveness and better outcomes for the above mentioned approach. A similar study conducted by N. Hymowitz found that concern of health was most common reason to quit for smokers.[14] Another study carried out among Polish smokers recorded similar possible reasons for successful abstinence.[15]

The secondary objective of our study was to identify the various co morbidities in smokers and SLT users. It was inferred from our study that Hypertension followed by diabetes are most commonly encountered existing illness in smokers. Others encountered illnesses were CAD, stroke, cancer, PAD, neurodegenerative diseases, psychiatric manifestations. Significant difference in coronary events and sudden death was seen in smokers as compared to non smokers.[16] The similar findings were also observed by a study published in 2016 in Nicotine and Tobacco Research.[17]

The current study also brought forth the fact that smokers or SLT users who are motivated or volunteers to take participation in cessation programme are more likely to successfully abstain from smoking. Similar article suggested that subjects who participated on their own volition or are married have more chances to be successful quitters.[18] However, factors associated with smoking cessation among Chinese adults were different. Here, being unmarried and started smoking late were found to be better predictors for abstinence.[19] Age, Gender and educational status are major determinants in outcome of any tobacco cessation programme.[20] The timing of counselling also plays a vital role in success of any counselling session. Hence forth, it is highly advisable to use this golden opportunity for counselling and advising the patient to abstain from using tobacco in any form.

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