IMPACT OF AN EDUCATIONAL INTERVENTION ON SMOKING CESSATION AMONG MEDICAL STUDENTS OF SRINAGAR, UTTARAKHAND, INDIA

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ABSTRACT

Background: *Tobacco smoking is the leading most common cause of preventable death and disease. The medical students should be equipped with the knowledge and skills to promote smoking cessation skills among their future patients.*

Aim: *To study the factors responsible for smoking behaviour among medical students of a government medical college in Srinagar, Garhwal uttarakhand and to assess the impact of an educational intervention on smoking cessation.*

Materials and Methods: *A cross-sectional study followed by an educational intervention was conducted from June 2014 to may 2015. Out of 491 medical students in the college, 89 students, who were found to be current smokers on the basis of history, were included in the study. The criteria for current smoker were the student who has smoked at least once in past one year. Data was analysed using Pearson's chi-square test and p-value <0.05 was considered significant.*

Results: *Of all the 89 smokers, 91% were hostellers, 74.1% started smoking themselves after joining college and 58.4% had been stimulated by the peer group. Before intervention, 89.8% students believed that smoking helps to relieve stress which significantly decreased to 57.3% after intervention. As a result of the intervention, 65.1% started nicotine replacement therapy (NRT) to quit smoking and 47.2% showed a significant reduction in the number of cigarettes smoked per week. Two students (2.2%) quit smoking altogether.*

Conclusion: *Simple educational intervention through a power point presentation is effective in motivating students to attempt quitting cigarettes and can be replicated at larger scale.*

INTRODUCTION

Tobacco smoking is the leading most common cause of preventable death and disease [1, 2]. The major diseases caused by cigarette smoking are coronary artery disease, cerebrovascular disease, peripheral vascular disease, chronic airway obstructtive disease, cancer of lung, larynx, lip, oral cavity, pharynx, esophagus, balder, kidney, pancreas [3] An estimated 4.9 million deaths which occur annually can be attributed to tobacco use. This may increase to 10 million by the year 2020, if the current tobacco use epidemic continues and more than 70% of these deaths are expected to occur in the developing countries [4].

Physicians occupy a key position in leading smoking cessation programme in the community. However with a high prevalence of smoking among medicos their function as a role model for smoking cessation is doubtful [5]. Medical students who are future doctors have an important role to play in the tobacco cessation and prevention efforts. They are ideally suited to provide the knowledge about tobacco use. However, the medical students who themselves use tobacco are unlikely to counsel patients against using tobacco [6].

The medical students should be equipped with the knowledge and skills to promote smoking cessation skills among their future patients. With this background, this study was undertaken among medical students to find out the factors responsible for smoking behaviour amongst them and to assess the impact of an educational intervention on smoking cessation for suitable preventive and promotive measures to them.

MATERIALS AND METHODS

A cross-sectional study followed by an educational intervention was conducted from June 2014 to may 2015. Out of 400 medical students in the college, 89 students, who were found to be current smokers on the basis of history, were included in the study. The criteria for current smoker were the student who has smoked at least once in past one year. After taking the permission from Institutional Ethical Committee of the college, the study subjects were administered a pre-intervention questionnaire on the day of interview, followed by an educational intervention, which was a power-point presentation designed to emphasize the benefits of cessation of smoking. Pictures of patients suffering from cancers due to use of tobacco were also shown in the presentation to develop the desire among students for quitting smoking.

A post- intervention questionnaire similar to the pre-intervention questionnaire was administered thirty days later. Data was analysed using Pearson's chi-square test and p-value <0.05 was considered significant.

RESULTS

Of all the 89 smokers, 91% were hostellers, 74.1% started smoking themselves after joining college and 58.4% had been stimulated by the peer group. Before intervention, 89.8% students believed that smoking helps to relieve stress which

significantly decreased to 57.3% after intervention. As a result of the intervention, 65.1% started nicotine replacement therapy (NRT) to quit smoking and 47.2% showed a significant reduction in the number of cigarettes smoked per week. Two students (2.2%) quit smoking altogether.

Table 1: Effects of Educational Intervention on Knowledge and Attitude of Smoker

Question	Options	Pre-intervention (89)		Post intervention		P value	Chi-Sq. value
		No.	%	No.	%		
Smoking is bad habit because it leads to	Malignancy	35	70	49	98	0.00	12.57
	Resp. disorder	47	94	49	98	0.60	0.26
	Sleep disorder	06	12	22	44	0.00	11.16
	Impotency	04	08	20	40	0.00	12.33
Knowledge about contents of cigarette	Nicotine	45	90	50	100	0.06	3.36
	Ammonia	31	62	43	96	0.01	6.28
	Carbon mono	18	36	34	68	0.00	9.01
	Arsenic	19	38	28	56	0.10	2.56
	Methane	16	32	23	46	0.21	1.51
	Toluene	05	10	07	14	0.75	0.09
Knowledge about associated cancer	Lung cancer	41	82	50	100	0.00	7.81
	Oral cancer	35	70	50	100	0.00	15.37
	Stomach cancer	15	30	45	90	<0.00	35.04
	Bladder cancer	03	06	25	50	<0.00	21.87
	Leukaemia	07	14	27	50	0.00	16.08
	Renal cancer	07	14	17	34	0.03	4.44
Attitude about advantages of smoking	Help to relax	42	84	25	50	0.00	11.57
	Enjoy	30	60	28	56	0.83	0.04
	Loss of weight	05	10	02	04	0.43	0.61
	Concentrate	45	90	38	76	0.11	2.55
	Anti-stress	45	90	32	64	0.00	8.13
	Relieve craving	05	10	04	08	1.00	0.00
	Time pass	22	44	15	30	0.21	1.54
	socialisation	11	22	05	10	0.17	1.86

94% and 70% students knew before intervention that smoking is bad because of respiratory disorder and malignancy respectively. 90% students knew that nicotine is present in cigarette. 82% students knew that lung cancer is associated with cigarette smoking. 90% students before intervention believed that smoking helps to relieve stress which decreased to 64% after intervention. After intervention only 50% believed that smoking helps in relaxing in comparison to 84% before intervention. Pre- intervention only 8% students knew that smoking can lead to impotency which increased to 40% post- intervention. There was significant increase in the knowledge regarding cancers associated with smoking.

Table 2: Effects of Educational Intervention on Practice of Smoking

Question	Options	Pre-intervention		Post-intervention		P value	Chi-sq. value
		No.	%	No.	%		
Number of cigarettes	1 – 2 /month	10	20	12	24	0.80	0.05
	<5 / day	23	46	13	26	0.06	3.51
	>5 / day	08	16	05	10	0.55	0.35
	1 – 2 / week	09	18	21	42	0.07	3.16
Complete stick at one time	Yes	42	84	39	78	0.61	0.26
	No	08	16	11	22	0.61	0.26
Strategy to quit	Willpower	21	42	30	60	0.10	2.56
	Counselling	10	20	18	36	0.11	2.43
	Medication	12	24	15	30	0.65	0.20
	Self-help book	04	08	04	08	0.71	0.13
	N.R.T.	31	62	37	74	0.28	1.14

84% were found to be taking complete sticks of cigarette at one time while 62% had tried nicotine replacement therapy to quit smoking before intervention.

Post intervention 42% reduced their number of cigarettes to 1-2 per week which was 18% pre intervention.

DISCUSSION

The medical students will be the future physicians of the community and if they will use the tobacco who else will be able to save the community from ill effects of the tobacco therefore the present study was planned to see the impact of the educational intervention in cessation of smoking.

In present study knowledge regarding various factors like diseases result from smoking, content of smoke etc. were considered which might be helpful for quitting smoking. Significant increase in the knowledge regarding malignancy, sleep disorder and impotency was found in our study. Knowledge regarding presence of arsenic, methane and toluene in cigarette was poor and it remained poor even after the educational intervention which might be due to strong focus on only nicotine content of cigarette.

There was significant increase in knowledge about various types of cancers caused by smoking after intervention.

In the current study, a majority of the students had initiated the smoking themselves or they had been offered smoking by a friend. Similar trends have been reported among the medical students of Nepal [7].

A major factor responsible for smoking behaviour in the medical students is just for fun, as was found in our study. Similar observations were reported in a Delhi study which was conducted among male college students [8]. The study was not been able to help students in changing their attitude that smoking leads to relaxation and stress reducing agent. This may be due to lack of knowledge among medical students about smoking-related disease and smoking cessation techniques [9].

Looking at the Effects of Educational Intervention on Practice of Smoking It was also observed that students have reduced the use of no of cigarettes after the intervention but the difference was not found to be significant, also students have reduced use of full cigarette stick after intervention but this was also not found to be significant.

When they were asked about strategy helpful in quitting smoking maximum students were in favour of willpower but again no significant difference was observed after intervention.

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