

Original Research Article

Health education as a tool to quit tobacco use among non-teaching staff in a medical college of North Karnataka: an interventional study

Yogesh Kumar Shashikanth¹, Ankita Priyadarshini^{2*}

¹Department of Community Medicine, ²Department of Psychiatry, J.N.Medical College, KAHER University, Belagavi, Karnataka, India

Received: 04 February 2019

Revised: 01 April 2019

Accepted: 02 April 2019

*Correspondence:

Dr. Ankita Priyadarshini,

E-mail: priyadarshiniankita@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Non-teaching staff working in medical institutes forms a formidable workforce and an important sector with respect to public health point of view. Nothing much is known about their tobacco habits and quit patterns.

Methods: An interventional study was conducted for the period of two months among 258 non-teaching staff in a medical college in north Karnataka. A self-administered questionnaire followed by intervention in the form of health education about the harms of tobacco was given to the participants. Further, follow-up was conducted after a week and at the end of one month using the same questionnaire to study the quit rate among the tobacco users. Appropriate statistical tests were used to analyze the results.

Results: Among 258 consented participants, 98 (38%) were using tobacco in any form. Smoking forms of tobacco use was seen in 17 (17.35%), smokeless forms in 61 (62.24%) and dual smoking and smokeless forms in 20 (20.41%) participants. Among tobacco users, only 30 (32.60%) actually attended the intervention. First follow-up was attended by 26 (86.67%) but none of them had quit tobacco. Second follow-up was again attended by same 26 participants. Among them, 3 (11.54%) participants had quit tobacco.

Conclusions: Tobacco consumption among the study participants was high. Compliance for health education to quit tobacco was poor among study participants. Similarly, tobacco quit rate among those who attended the intervention and the two follow up sessions was very poor.

Keywords: Tobacco, Health education

INTRODUCTION

Tobacco consumption is increasing in developing countries, which will bear the brunt of the tobacco epidemic in the twenty first century. If current smoking patterns continue, seven out of the world's 10 million annual deaths from tobacco in 2025 will occur in developing countries.¹ India, the largest grower of tobacco in the world, amassed 1.7 million disability adjusted life years (DALYs) in 1990 due to diseases and injury attributable to tobacco use in a population where 65% of the men & 38% of women consume tobacco in

any form. India's anti-tobacco legislation, first passed at the national level in 1975, was largely limited to health warnings & proved to be insufficient.² India has one of the world's highest prevalence of tobacco use. The major drawback that exists in its prevalence is the lack of awareness about hazardous effects of tobacco use and also the lack of intervention through tobacco cessation clinics and interactive sessions that could motivate them to give up its practice and lead a healthy life style. District Tobacco Control Units were set up in 18 districts in 9 states in 2007-2008 under the National Tobacco Control Program initiated by the Government of India in

2002.³ Its expansion to various states and districts is yet to be accomplished thus barring the community from taking advantage out of it. Many studies have been conducted in medical and dental students and their staff members with respect to tobacco use and tobacco cessation activities in India.⁴⁻⁸ Non-teaching staff working in medical institute forms a formidable workforce and an important sector with respect to public health point of view. Medical students, patients, teaching staff, relatives of the patients and even general public will have some interactions with this sector on a day to day basis. Their tobacco habits may have profound implications on the different set of populations, especially medical students. There are hardly any studies conducted among non-teaching staff of medical colleges regarding their tobacco consumption pattern and cessation aspects. In this regard, this study was planned with the objectives of knowing the prevalence of tobacco consumption, effect of health education on cessation and the compliance for discontinuation.

METHODS

This is an interventional study, which was conducted among 360 non-teaching staff of J.N. Medical College, KLE University, Belgaum, in north Karnataka during 1st August 2014 to 31st October 2014. The list of all the non-teaching staff was obtained from the college office with due permission from the Dean. The non-teaching staff included office Superintendent, clerical staff in the office, clerical staff in the individual departments, cashiers, peons and drivers. Out of 360 participants, 258 gave informed consent to participate in the study. Among those who consented for the participation, 158 are regular employees and 100 employees working on daily wages basis. Information was collected on socio-demographic background like age, sex, economic status, occupation, dietary history and the details of tobacco use in the lines of Global Adult Tobacco Survey. Following this, the investigator gave intervention in the form of health education through flip charts and lecture to the study participants found to be using any form of tobacco depending upon their availability. Including all the participants (n=258) for intervention in a single sitting was not a feasible option in our study as it involved participation of staff from different departments. Hence, the intervention sessions were divided according to the availability of study participants. This was followed by interactive sessions to help them understand the hazards of tobacco use. This helped to clear the misconceptions about tobacco use among those participants who are using any form of tobacco. Further, follow-up was conducted for all the participants using tobacco after a week using the same questionnaire to know the quit rate. Similar follow up study was conducted after end of one month after the health education to study the continuation of quit rate among the tobacco users. Appropriate statistical tests were used to analyze the results.

Clearance was obtained from Institutional Ethical Review Committee of J.N. Medical College to conduct the proposed study.

RESULTS

Socio-demographic profile

Socio-demographic characters of study participants showed that, maximum number of participants were in the range of 31-40 years (41.1%), followed by 41-50 years (34.5%), less than 30 years (12.4%) and 51-60 (12.0%). Majority of them were males (75.6%), Kannada speaking (96.9%) and belonged to Hindu religion (99.6%). Most of them had studied up to secondary school (29.0%) followed by higher secondary (27.5%) and primary school (16.7%). Few (4.3%) were illiterates. When it comes to income, 39.9% of participants had income of 2000-5000 rupees followed by those with 5000-10,000 rupees (29.8%) and less than 2000 rupees (15.5%).

Table 1: Socio-demographic profile of study participants (n=258).

Socio-demographic variable	Number	Percentage (%)
Age (in years)		
<30	32	12.4
31-40	106	41.1
41-50	89	34.5
51-60	31	12.0
Sex		
Male	195	75.6
Female	63	24.4
Mother tongue		
Kannada	250	96.9
Marathi	8	3.1
Education		
Primary	43	16.7
Secondary	75	29.0
Higher secondary	71	27.5
Senior college	27	10.5
Graduate	31	12.0
Illiterate	11	4.3
Religion		
Hindu	257	99.6
Muslim	1	0.4
Income (in Rupees per month)		
<2000	40	15.5
2000-5000	103	39.9
5000-10,000	77	29.8
10,000-15,000	35	13.6
>15,000	3	1.2

Tobacco consumption pattern

The prevalence of tobacco consumption in participants was 38%. Among tobacco users, majorities were using smokeless form (62.24%) of tobacco followed by dual forms (20.41%) and smoking forms (17.35%). Among smokeless tobacco users, tobacco powder (37.70%), gutka (34.42%) and pan with tobacco (24.59%) were most commonly used products. Those using dual forms of tobacco were using cigarettes and tobacco powder (25%), cigarette and pan with tobacco (25%), cigarette with gutka (20%) and beedi with khaini (10%). Cigarette (64.71%) was the favorite among only smokers. About 72% of tobacco users were spending between 100 to 300 rupees per month on tobacco products and 41.8% had made attempt to quit in the last 12 months.

Table 2: Tobacco consumption pattern of study participants (n=98).

Tobacco consumption related variables	Number	Percentage (%)
Forms of tobacco		
Smoking	17	17.35
Smokeless	61	62.24
Combined	20	20.41
Type of tobacco products		
Smoking		
Cigarette	11	64.71
Beedi	6	35.29
Smokeless		
Gutka	21	34.42
Tobacco powder	23	37.70
Pan with tobacco	15	24.59
Khaini	1	1.64
Zarda	1	1.64
Dual		
Cigarette+tobacco powder	5	25
Cigarette +khaini	1	5
Cigarette+pan tobacco	5	25
Cigarette+gutka	4	20
Beedi+tobacco powder	1	5
Beedi+khaini	2	10
Beedi+zarda	1	5
Beedi+gutka	1	5
Expenditure on tobacco products per month (in rupees)		
100-200	41	41.84
201-300	30	30.61
301-400	1	1.02
401-500	10	10.20
>500	16	16.33
Attempt to quit tobacco in last 12 months		
Yes	41	41.8
No	57	58.2

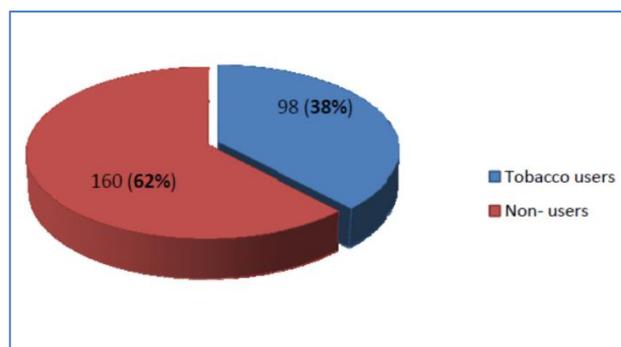


Figure 1: Distribution of tobacco users in study participants (n=258).

Compliance for health education intervention, follow-up visits and quit rate

All tobacco users (n=98) were eligible for the initial health education intervention. Six of them left the job during this period and hence 92 were invited for the intervention. Among 92 participants only 30 (32.60%) actually attended the intervention program. For the one week and one month follow-up visits, the compliance was 86.67%. None of the participants who attended the first follow-up visit had quit tobacco whereas 3 (11.54%) participants had quit during the second follow-up visit.

Table 3: Compliance of study participants for health education intervention (n=92*).

Health education intervention	Number	Percentage (%)
Attended	30	32.60
Not attended	62	67.40

* Out of 98 study participants 6 of them quit the job after initial survey and before health education intervention.

Table 4: Compliance for follow-up and quit rate among those who attended the health education intervention (n=30).

Follow up	Attended (%)	Quit rate (%)
After 1 week	26 (86.87)	Nil
After 1 month	26 (86.67)	3 (11.54)

DISCUSSION

India, the largest grower of tobacco and second largest consumer of tobacco in the world. The available literature on tobacco cessation is mainly from other sector that included workplace tobacco cessation program and studies from other countries, so it was imperative to study the tobacco use and impact of cessation program in non-teaching sector of medical institute, which so far has not been done.^{6,9} Study participants (n=258) were interviewed for their socio-demographic background. Majority of the participants using tobacco were in the age group of 51-60 years. Most of the tobacco users were

illiterates and were Hindu by religion with income of above 10,000 Rupees per month. A survey of socio-demographic characteristics of tobacco use was done in Bombay among 99,598 individuals also showed maximum tobacco users belonging to illiterate category.¹⁰

In our study 38% of the participants were tobacco users, among those, 62.24% were smokeless tobacco users, 17.35% were smokers and 20.40% were using both smoking and smokeless forms. This indicated the rise of smokeless tobacco use was higher among tobacco users. Among those who smoked, majority preferred cigarettes (64.71%) followed by beedi (35.29%). The combination of smoking and smokeless forms included cigarette with tobacco powder (25%) followed by tobacco powder with paan (25%). Combination with beedi is preferred by 25% of tobacco users and among them, the preferred combination was beedi with khaini (10%). A survey conducted in India also showed that the tobacco use among men was reported to be 69.3% with 23.6% using smoking forms.¹¹ Another interventional study conducted in India showed that the smokeless tobacco users were more than the smoking forms and combined forms.⁹ Expenditure pattern related to tobacco use showed that majority of study participants (41.84%) spent 100-200 rupees per month. A study was conducted in Australia to find what price of tobacco can lead to people quitting the habit thereby setting higher taxes on tobacco products.¹² This indicates the need of strict government policies and levying of high taxes in the sale and purchase of tobacco products, which, unfortunately is not being done in developing countries like India. The study also showed that 57 (58.2%) did not try to quit tobacco in the last 12 months whereas 41 (41.8%) tried to quit tobacco without seeking any professional help but failed to do so. This shows the lack of motivation among the participants due to lack of intervention activities, lecture sessions and dearth of knowledge about the hazards of tobacco use.

The Global Health Professional Students Survey (GHPSS) was conducted among the third-year medical and dental students in selected Member States of the South-East Asia region observed no significant change in the proportion of medical students ever having received cessation training in Bangladesh, India, and Nepal between 2005 and 2006 and 2009 and 2011. However, in Myanmar (43.7% in 2006 to 28.8% in 2009), cessation training declined significantly whereas, it increased in Sri Lanka (16.2% in 2006 to 18.6% in 2011). The study depicted that there had not been significant decline in the tobacco use and second hand smoke exposure among the students. Also the study showed the existing gaps in training needs for tobacco cessation assistance skills for medical and dental students.⁶ Similar efforts are required in this sector also to help the participants to overcome the habit of tobacco use. In our study, the intervention program was organized for 98 tobacco users but only 92 took part as 6 out of 98 participants left the institute during the course of the study. Among 92 participants, 30 attended the intervention with a poor compliance rate of

32.60%. The first follow-up (after 1 week) was attended by 26 participants out of 30 with compliance rate of 86.67% which was considerably good but none among those gave up tobacco with quit rate of zero percent. In the second follow up (after 1 month) 26 participants (86.67%) out of 30 agreed for the interview. This time 3 participants had quit tobacco with quit rate of 11.54%, which is unsatisfactory. An interventional cohort-study conducted among 104 employees working in a chemical industry in rural Maharashtra, India for duration of one year showed 48% employees consumed tobacco. The tobacco quit rates increased with each follow-up intervention session and reached 40% at the end of one year. The study also showed the effect of interventions in the form of improvement in knowledge regarding harms of tobacco.⁹ This study was carried out for a year, which gave more time for the intervention activities and consistent follow-ups. Also it involved family support and peer-pressure to give up tobacco habit, which accounted for the success of this study. Similar efforts are required in this non-teaching staff of medical college sector to achieve good quit rate.

CONCLUSION

Tobacco consumption among the study participants was high. Tobacco consumption habit was seen more among those with higher income. Compliance for tobacco intervention in the form of health education was poor among study participants. Compliance for follow up was relatively good among those who attended the intervention. Tobacco quit rate among those who attended the intervention and the follow study was very poor.

ACKNOWLEDGEMENTS

All the non-teaching staff of J.N. Medical College, KAHER, who participated in the study. The College Administration, who provided necessary permission to carry out the study.

Funding: ICMR-STC Reference number 2014-00683

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Mackay J, Crofton J. Tobacco and the developing world. *Br Med Bull*. 1996;52(1):206-21
2. Shimkhada R, Peabody JW. Tobacco control in India. *Bull World Health Organ*. 2003;81(1):48- 52.
3. Murthy P, Saddichha S. Tobacco cessation services in India: Recent developments and the need for expansion. *Indian J Cancer*. 2010;47(1):69-74.
4. Khandelwal V, Khandelwal S. Tobacco Addiction Among Dental Students: A Reality to be Addressed. *Indian J Community Med*. 2014;39(3):189.

5. Surani NS, Pednekar MS, Sinha DN, Singh G, Warren CW, Asma S, et al. Tobacco use and cessation counseling in India-data from the Global Health Professions Students Survey, 2005-09. *Indian J Cancer*. 2012;49(4):425-30.
6. Sinha DN, Rinchen S, Palipudi KM, Naing Shein NN, de Silva P, Khadka BB, et al. Tobacco use, exposure to second-hand smoke, and cessation training among the third-year medical and dental students in selected Member States of South-East Asia region: a trend analysis on data from the Global Health Professions Student Survey, 2005-2011. *Indian J Cancer*. 2012;49(4):379-86.
7. Chatterjee T, Haldar D, Mallik S, Sarkar GN, Das S, Lahiri SK. A study on habits of tobacco use among medical and non-medical students of Kolkata. *Lung India*. 2011;28(1):5-10.
8. Mehrotra R, Chaudhary AK, Pandya S, Mehrotra KA, Singh M. Tobacco use by Indian medical students and the need for comprehensive intervention strategies. *Asian Pac J Cancer Prev*. 2010;11(2):349-52.
9. Mishra GA, Majmudar PV, Gupta SD, Rane PS, Uplap PA, Shastri SS. Workplace tobacco cessation program in India: A success story. *Indian J Occup Environ Med*. 2009;13(3):146-53.
10. Gupta PC. Survey of socio-demographic characteristics of tobacco use among 99,598 individuals in Bombay, India using handheld computers. *Tob control*. 1996;5(2):114-20.
11. Tobacco Questions for Surveys. Available at: www.who.int/tobacco/surveillance/en_tfi_tqs.pdf. Accessed on 28 January 2014.
12. Scollo M, Hayes L, Wakefield M. What price quitting? The price of cigarette at which smokers say they would seriously consider trying to quit. *BMC Public Health*. 2013;13:650.

Cite this article as: Shashikanth YK, Priyadarshini A. Health education as a tool to quit tobacco use among non-teaching staff in a medical college of North Karnataka: an interventional study. *Int J Community Med Public Health* 2019;6:2023-7.