



Prevalence of Smoking and Attitudes Regarding Its Control among Healthcare Professionals in a Tertiary Care Hospital at Lucknow

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ABSTRACT In a cross-sectional study conducted at a tertiary care hospital of Lucknow, data from 121 healthcare professionals regarding smoking habits, age of starting smoking, type of smoking, reason of the starting smoking, and number of cigarettes smoked per day, attitudes and smoking cessation counselling practices were collected through a self-administered questionnaire and analysed. Mean age of the participants was 39.2 ± 7.85 years and 52.9% were males. The gender-wise prevalence of smoking was quite higher in males (62.5%) than in females (7.02%). Smokers comprised 36.36%. More than one-third (35.5%) of the participants were influenced for smoking by friends. Healthcare professionals, who had used or currently use tobacco, were less approving of evidence-based measures to control tobacco than never users. The study shows a high prevalence rate of cigarette smoking among male healthcare professionals. Healthcare providers need to modify their attitudes towards smoking cessation counselling practices for the larger benefit of the society.

KEYWORDS : Smoking, Healthcare professionals, Attitude

INTRODUCTION:

Tobacco smoking is a global epidemic. The number of smokers will increase mainly owing to the expansion of the world population. It is estimated that by the year 2030, there will be at least 2 billion people in the world who smoke.¹ Ever since the manufactured cigarettes were introduced at the beginning of the 20th century, consumption of cigarettes has been rising rapidly. Tobacco use is the leading cause of preventable death globally, contributing to more than 5 million estimated deaths every year. If current smoking patterns continue, it is extrapolated that by the decade 2020- 2030, tobacco will kill 10 million people a year, i.e. about 650 million people will eventually be killed by tobacco, 70% of which will occur in developing countries.^{2,3} Likewise, cigarette smoking is the largest preventable risk factor for morbidity and mortality in developed countries where at least one in four adults smoke cigarettes.⁴

"Tobacco continues to be a leading global killer, with nearly five million deaths a year. The health community plays a key role in the global effort to fight this epidemic," notes Dr Lee Jong-wook, former WHO Director General.⁵ Health professionals are on the frontline; as such they require the talent and skills to assist people quit smoking. Moreover they need to lead the society by example, and discontinuing using tobacco use themselves. Unless any further endeavour is taken to comprehend the magnitude of the problem and resolve the issue urgently, it is estimated that approximately ten million tobacco-related deaths per annum will occur by 2020, most of them in the developing countries.

Tobacco use has increasingly and disturbingly affected the Indian subcontinent, where smoking disproportionately affects particularly the poor. India has one of the highest smoking prevalence rates in the developing world, especially among men. Tobacco-related diseases constitute the top three causes of deaths in the country. Approximately 194 million men and 45 million women use tobacco in either smoked or smokeless form in India.⁶ WHO estimates that in India, 65% of all men use some form of tobacco i.e. about 35% smoking, 22% smokeless tobacco, 8% both.⁷

With the smoking epidemic, the role of medical professionals is most crucial in lowering down the smoking rates among the masses, thereby preventing many avoidable diseases. As emphasized in the preamble of the World Health Organization (WHO) Framework Convention on Tobacco Control, health care professionals are in the best position for curbing tobacco menace in the society. Studies reveal that physicians and other health-care workers have an important role to play in reducing prevalence of smoking in the society,^{8,9} and as well as in limiting the mortality and morbidity from cigarette-related diseases.^{10,11} They are very effective in helping patients to quit smoking. In this regard, physicians are seen as the symbols of good health practice and role model by the public, patients and their colleagues.¹² Moreover, they can play a crucial role in influencing the smoking habits of their patients, in exercising tobacco control in the community and in formulation of public health policy. Most ironical

and unfortunate fact is that healthcare providers, due to various reasons, themselves tend to smoke frequently. This is a global issue. Very few records are available to find the prevalence of smoking among healthcare providers and the factors responsible for their continuation of smoking despite its hazardous effects. The **purpose** of this study was to identify:

1. the smoking **prevalence** of healthcare professionals in Lucknow, and
2. to **understand the attitudes** of Healthcare professionals in Lucknow towards smoking, tobacco prevention and control efforts.

Definition of terms

1. Smoking: ≥ 1 cigarette per day
2. Types of smokers: Smokers, Non-smokers, Never smokers, Ex-smokers

A. Smokers were individuals who have smoked more than 100 cigarettes in their lifetime and who continued to smoke at the time of the study.

- Daily smoker: A person who is currently smoking at least 1 cigarette per day
- Occasional smoker: A person who smoked occasionally

B. Non-smokers: Persons who never smoked their lifetime plus ex-smokers.

- Never smokers: Persons who never smoked in their lifetime
- Ex-smokers: People who were formerly daily smokers but currently do not smoke anymore.

3. Healthcare professional: All professionals involved in the delivery of healthcare in a tertiary care hospital including doctors, paramedical staff registered nurses and operation theatre technicians.

MATERIALS AND METHODS:

It was a cross-sectional study conducted at working places (OPDs, Wards, operation theatres) of Dr Ram Manohar Lohia Institute of Medical Sciences, a tertiary care hospital of Lucknow, Uttar Pradesh, India. A total of 150 healthcare providers were requested to fill the questionnaire in the study, 29 healthcare professional failed to respond. Hence, data from 121 participants were collected and analysed. Inclusion criteria for study participants were doctors and paramedics (nurses and technicians) of either gender, currently working in the tertiary care hospital. Only employed doctors and paramedics were enrolled; postgraduate students, house officers, and trainees were not included in this study.

Healthcare providers were encouraged for voluntary participation in the project, and any kind of financial compensation was not provided for the same. The nature and purpose of study to all the selected participants was duly explained. Informed consent was taken from all the participants. Data were collected through a self-administered

questionnaire. The objectives of the study were explained to the subjects. All the participants were asked about their demographic profile. Smokers were asked about the age of starting smoking, type of smoking, reason of the starting smoking, and number of cigarettes smoked per day. All the information was collected on a predesigned format. Confidentiality and anonymity were maintained to obtain as frank answers as possible.

A structured questionnaire that is relatively valid and a reliable indicator of prevalence and associated risk factors, was used. This questionnaire was slightly a simplified form of the commonly used questionnaire around the world for tobacco survey.¹³The questionnaire comprises three parts:

Part A is designed to measure socio-demographic data including age, gender, type of healthcare provider, department, specialty, and duration of occupation.

Part B is about the smoking status.

Part C rates knowledge, attitudes and cessation counselling practices were assessed on an ordinal 5-points Likert scale where each response was ranked by giving equally spaced weight: 1, strongly agree; 2, agree; 3, unsure; 4, disagree; 5, strongly disagree.

Data were entered and analysed using Statistical package for social science (SPSS version 16). Mean ± Standard Deviation was calculated for continuous variables like age, etc. Frequencies and percentages were calculated for gender, specialty, religion, smoking status, etc. Categories were made on the basis of gender, duration of occupation, and smoking status. Stratification was done on the basis of gender, age, type of hospital, type of healthcare provider, and department. Chi-square test was applied to see any effect of independent variables on smoking at $\alpha = 0.05$. The Socio-demographic characteristics of healthcare providers by smoking status were reported as odd ratio and confidence interval. Confounders were managed through randomized selection of subjects. Differences were considered to be statistically significant if the *P* value was <.05.

RESULTS

Table 1 shows socio-demographic characteristics of healthcare providers. Mean age of data sets was 39.2 years ± 7.85 SD, more than half of the participants were male (52.9%). Among study participants, smokers comprised 36.36%. The gender-wise prevalence of smoking was quite higher in males (62.5%) than in females (7.02%). More than one-third (35.5%) of the participants were influenced for smoking by friends.

Table 1: Socio-demographic characteristics

Variables	Frequency (n=121)	Percentages
Age (years): Minimum-22, Maximum-57; Mean:39.2, SD=7.85		
20-40	61	50.41%
41-60	60	49.59%
Gender		
Male	64	52.9%
Female	57	47.1%
Healthcare Providers		
Doctors	70	57.85%
Paramedical staff	51	42.15%
Religion		
Hinduism	106	87.60%
Islamism	15	12.40%
Smoking status		
Smoker	44	36.36%
Non-smoker	77	63.64%

Table 2 shows the association of smoking status with socio-demographic factors contributing to smoke among healthcare providers. The study participants were divided into two groups on the basis of smoking status. When the age, gender, religion and type of healthcare providers were compared between the two groups, the only characteristics found statistically significant with smoking status was gender (OR 22.08, 95 CI =7.10-68.73, *P*<0.0001).

Table 2: Association of smoking status with socio-demographic factors

Variables	Smoker (n=44)	Non-smoker (n=77)	Odds Ratio	95% CI	Z-statistic	P-value
Age (years)						
≤40	27	34	1.38	0.67	0.86	0.39
>40	17	43		2.83		
Gender						
Male	40	24	19.37	6.24	5.13	<0.0001*
Female	4	53		60.08		
Healthcare Providers						
Doctors	25	35	2.07	0.97	1.88	0.06
Paramedical staff	19	42		4.39		
Religion						
Hinduism	37	69	0.70	0.24	0.65	0.51
Islamism	07	08		2.06		

Table 3 shows that healthcare professionals, who had used or currently use tobacco, were less approving of evidence-based measures to control tobacco than never users.

Table 3: Comparison of knowledge and attitudes of healthcare professionals towards tobacco control.

Statement	Mean score		P value
	Never used tobacco	Ever used tobacco	
Patient's chances to quit are increased if a health professional advises them so	1.9	2.1	.001
Health professionals should routinely ask about their patients smoking habits.	1.6	1.7	.046
Health professionals should routinely advise their smoking patients to quit smoking.	1.5	1.6	.004
Health professionals who smoke are less likely to advise people to stop smoking.	2.1	2.7	.001

Health professionals should get specific training on cessation techniques.	1.7	1.9	.002
Smoking in enclosed public places should be prohibited.	1.1	1.3	.001
Health warnings on cigarette packages should be in big print.	1.3	1.5	.001
Tobacco sales should be banned to children and adolescents.	1.1	1.2	.092
Sport sponsorships by tobacco industry should be banned.	1.5	1.6	.390
There should be a complete ban on the advertising of tobacco products.	1.5	1.7	.019
Hospitals and health care centers should be "smoke-free".	1.1	1.2	.007
The price of tobacco products should be increased sharply.	1.7	2.2	.001
Maternal smoking during pregnancy increases the risk of SiDS*	1.7	1.9	.012
Passive smoking increases the risk of lung disease in non-smoking adults.	1.5	1.7	.001
Passive smoking increases the risk of heart disease in non-smoking adults.	1.8	1.9	.104

Paternal smoking increases the risk of lower respiratory tract illnesses such as pneumonia in exposed children.	1.8	1.9	.015
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DISCUSSION

The result of the study indicated that healthcare professionals, though aware of risks and hazards of smoking, had a quite prevalent smoking habit. The prevalence of smoking among medical professionals in our study was (36.36%). Compared to previous studies carried out in Asian countries, the smoking prevalence among healthcare providers in this study (36.36%) is higher than in Malaysia (25%),¹⁴ in Pakistan (29%)¹⁵ and in China (32%)¹⁶ and an earlier study in India (33%).¹⁷

In general, patterns of smoking in male and female differ between developing and developed countries. Significantly, more male (40-60%) but fewer female (2-10%) smoke in developing countries compared with 25-30% of both male and female in developed countries.¹⁸ Female in developing countries tend to lower the rate of smoking, starts smoking at a later age compare to male, and consume less cigarette daily.¹⁹ This is consistent with our study, which showed that male healthcare providers smoke more (62.5%) as compared to females (7.02%), and this difference is statistically significant. It is evident that mostly males were involved in smoking in the studied sample. This is largely due to social unacceptability of female smoking.¹⁹ On the contrary, a previous study carried out in Italy found the highest prevalence of smoking among female physicians (34%).²⁰

In a recent localised study, the prevalence of smoking among male healthcare providers was 50.31% and that among female healthcare providers was 7.04%, which are comparable with our results. In other study, prevalence of smoking in male healthcare providers was 38.6% and in female it was 3.3%.^{21,22}

The highest smoking rates were seen in the younger age group of 21 to 40 years (39.34%), versus 41 to 60 years (34.0%). It corresponds to earlier studies conducted in some countries such as Mexico, China¹⁶ and India,¹⁷ where the highest smoking rates were found among the younger age group. Nevertheless, few studies quote higher prevalence of smoking among older age groups.¹⁵

The study reveals that healthcare professionals, who had used or currently use tobacco, were less approving of evidence-based measures to control tobacco than never users. This finding is consistent with other studies where smokers report less support for tobacco control measures than nonsmokers.²³ However, it must be cautioned that not all smokers are homogeneously opposed to all tobacco control policies.²⁴

There are several risk factors which contribute to smoking prevalence and if these factors are addressed on time, prevalence will be reduced. Yet, only few studies have examined this issue. Most of the previous studies have addressed smoking habits among general population. A segment of healthcare providers too, worldwide, have been identified to be involved in smoking, at least to some extent. An American study indicates that in 2006/2007, Licensed Practical Nurses had the highest prevalence of tobacco smoking (20.55%), followed by respiratory therapists (19.28%). Physicians had a prevalence of 2.31%, dentists - 3.01%, pharmacists - 3.25%, and Registered Nurses - 10.73%.³ The overall prevalence of smoking among healthcare providers was 9.85%.²⁵ Similarly, a study from China identified 20.8% of healthcare providers as current smokers. Smoking among physicians was very high (35.7%) according to this study and 59.7% of the respondents believed that inadequate knowledge is responsible for their continuation of smoking.²⁶

There were very few local studies addressing this problem. A recent study from Lahore conducted at Mayo hospital found out the frequency of smoking among doctors to be 37.18% and in paramedical staff to be 35.74%. Most of them initiated smoking due to the influence of friends. Majority of doctors and paramedics found smoking as relaxing and addiction and was the main reason they couldn't quit.

Main factors responsible for continuation of smoking are addiction (Doctors - 38%, Paramedics - 42%), lack of will power (Doctors - 21%, Paramedics - 27%), and lack of incentive (Doctors - 24, Paramedics - 12%).²⁷ On the other hand, among general practitioners, 36% are found to be cigarette smokers, who consume 12.48 cigarettes per day and have 18.76 average years of smoking. Half of them have been smoking for more than 20 years.²⁸

Tobacco smoking can be stopped by clinical interventions that are highly cost-effective and require relatively little additional training, if any.²⁹ Moreover, the benefits of smoking cessation have been well demonstrated. Smoking cessation reduces health risks and improves quality of life.^{30,31} Although every smoker should be aggressively encouraged to give up smoking, given the tobacco's extremely addictive properties, cessation attempts necessitate support by health care professionals so as to achieve long-term abstinence. Health professionals are in an ideal position to advise and educate patients about the dangers of smoking by promoting smoking cessation both as advisers and behavioural models for the citizens.^{32,33,34,35,36} However, physicians who smoke are less likely to advise patients to quit smoking. Also, it is less expected from them to assess patient's will to refrain from smoking.¹² In addition to all the smoking-related health hazards that healthcare providers are exposed to, they are also not been able to counsel their patients effectively. It is evident that if healthcare providers themselves smoke, they cannot educate masses regarding smoking cessation.³⁷

LIMITATIONS OF THE STUDY

The nature of this study is cross-sectional; thus, the causes and effect could not be examined. The target group of this study is healthcare providers, hence, generalization of the findings could be limited to only the medical doctors, nurses, and technicians and not other types of health professionals. It is possible that recall bias or information bias might have occurred as healthcare providers who were smokers might be reluctant to tell the truth. Further studies with larger sample size are needed to validate the results.

CONCLUSIONS

This study showed that there is high prevalence rate of cigarette smoking among male doctors and paramedical staff in a tertiary care hospital, while this trend is low among female healthcare providers. It is essential to propose and undertake effective interventions aimed to the implementation of an adequate culture of smoking cessation among healthcare providers, in view of the important role that the medical professions play as exemplary models of appropriate health behaviours. It is recommended that strict legislations to prohibit cigarette smoking in healthcare offices, hospitals, and primary healthcare centres, and a comprehensive multi-sectorial campaign are needed urgently to overcome this problem. Level of awareness should be raised among healthcare providers and medical and paramedical student through seminars, symposiums, workshops, and cigarette-smoking-quitting clinics.

Sample Questionnaire

Please fill in the blank or tick as appropriate.

Demographic Details

1. Age or date of birth:
2. Gender: M/F
3. Profession: Doctor, Nurse, OT technician
4. Religion:
5. Department:
6. Duration of occupation:

B. Smoking habits

1. Do you currently smoke: Yes/No
2. Did you smoke in the past: Yes/ No
3. Did you never smoke in lifetime: Yes/No
4. Age of starting smoking:
5. Reason of the starting smoking: parents smoked, peer pressure, for relieving stress
6. Number of cigarettes smoked per day:

C. Knowledge and Attitudes

For Q1 to Q16, please use the code below. [1= Strongly agree; 2= Agree; 3= Unsure; 4= Disagree; 5= Strongly disagree]

- | |
|--|
| 1. Patient's chances to quit are increased if a health professional advises them so. |
|--|

2. Health professionals should routinely ask about their patients smoking habits.
3. Health professionals should routinely advise their smoking patients to quit smoking.
4. Health professionals who smoke are less likely to advise people to stop smoking.
5. Health professionals should get specific training on cessation techniques.
6. Smoking in enclosed public places should be prohibited.
7. Health warnings on cigarette packages should be in big print.
8. Tobacco sales should be banned to children and adolescents.
9. Sport sponsorships by tobacco industry should be banned.
10. There should be a complete ban on the advertising of tobacco products.
11. Hospitals and health care centres should be "smoke-free".
12. The price of tobacco products should be increased sharply.
13. Maternal smoking during pregnancy increases the risk of Sudden Infant Death Syndrome (SIDS).
14. Passive smoking increases the risk of lung disease in non-smoking adults.
15. Passive smoking increases the risk of heart disease in non-smoking adults.
16. Paternal smoking increases the risk of lower respiratory tract illnesses such as pneumonia in exposed children.

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