Physician’s practices and perspectives regarding tobacco cessation in a teaching hospital in Mysore City, Karnataka

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ABSTRACT

Context: Tobacco is a leading cause of disease and premature death. Most of the smokers visit a doctor for various health related ailments and thus such clinic visits provide many opportunities for interventions and professional tobacco cessation advice.

Aims: The primary aim of the following study is to assess the physician practices, perspectives, resources, barriers and education relating to tobacco cessation and their perceived need for training for the same. The secondary aim is to compare the physician’s cessation practices from patient’s perspective.

Settings and Design: A descriptive study was conducted in a hospital attached to Medical College in Mysore city, Karnataka.

Materials and Methods: Information about doctor’s practices, perspectives and their perceived need for training in tobacco cessation were collected using pre-structured self-administered Questionnaire, which were distributed in person. Patient’s practices and perspectives were assessed using a pre-structured Oral Questionnaire.

Results: Almost 95% of physicians said that they ask patients about their smoking status and 94% advise them to quit smoking, but only 50% assist the patient to quit smoking and only 28% arrange follow-up visits. Thus, they do not regularly provide assistance to help patients quit, even though 98% of the physicians believed that helping patients to quit was a part of their role. Only 18% and 35% of the physicians said that Undergraduate Medical Education and Post Graduate Medical Education respectively prepared them very well to participate in smoking cessation activities.

Conclusions: Tobacco cessation requires repeated and regular assistance. Such assistance is not being provided to patients by attending doctors. Our medical education system is failing to impart the necessary skills to doctors, needed to help patients quit smoking. Reforms in education are needed so as to prepare the physician to effectively address this problem.

Key words: Karnataka, Mysore, physician's practices and perspectives, smoking, tobacco, tobacco cessation

INTRODUCTION

Tobacco use causes a wide range of diseases which affect almost every organ of the body. Cigarettes kill one in two smokers prematurely, half of these deaths occurring during middle age (35-69 years).[1] The extent of world-wide tobacco use is estimated to be 1.3 billion smokers.[2] Tobacco smoking is ranked second in the 10 leading risk factor causes of death and sixth in the 10 leading risk factor causes of DALYs.[3] As the second-largest producer and consumer of tobacco in the world, India’s share of the global burden of tobacco-induced disease and death is substantial. The use of tobacco not only poses a significant threat to health, but also to social and economic fabric of families,
communities and nations. In India, 11% of deaths in men aged 30-59 years (economically productive age group) were caused by tobacco smoking, thus a substantial loss of bread winners to smoking.\(^1\)

Apart from having direct effects on health, the indirect effects of smoking on health are many. One such example is that tobacco use contributes to malnutrition when hard earned money is spent on tobacco instead of food. The World Health Report: “Reducing Risks, Promoting Healthy Life” listed tobacco among its 10 top risks to health. But first on the list was underweight.\(^4\) Thus, tobacco does have an indirect role here.

Although the damage done by tobacco is well-documented, we are still on the lookout for effective action for tobacco control. These range from complete ban on tobacco to behavioral changes.

Most of the smokers visit a doctor for various health related ailments and thus these clinic visits provide many opportunities for interventions and professional cessation advice. Health care professionals who advise a patient to quit can increase patient’s success rate by more than 30%\(^5,6\). Thus, a better understanding of the factors that facilitate or impede physician participation in cessation activities will help to design policies and programs to further reduce smoking.

There have been a number of studies that have been carried out in the west among physicians, but there are hardly any that have been carried out in the Indian context. Hence, this study has made an effort to shed light on the physician’s practices and their perspective on this important but preventable health hazard.

**MATERIALS AND METHODS**

A descriptive study was carried out in a hospital attached to a Medical College in Mysore City. The study was conducted in the month of March-April 2013. The survey was conducted among practicing physicians in the following specialties namely medicine (which included General Medicine, Pulmonology, Nephrology, Urology and Gastroenterology), Surgery (which included General Surgery, Gastro Enteric Surgery, Neurosurgery and Plastic Surgery), Psychiatry and Others (which included Ear, Nose and Throat, Orthopedics and Community Medicine). Furthermore, 142 in-patients across above mentioned clinical specialties were randomly selected and interviewed to correlate the results.

All Professors, Associate Professors, Assistant Professors, Senior Residents and Junior Residents were given self-administered questionnaires. The questionnaire was based on the one used in a study carried out by the American Medical Colleges Association.\(^3\) After modification, information about physician’s primary details (like designation and department), practices using 5 A’s (Ask, Assess, Advise, Assist, Arrange follow-up),\(^7\) perspectives, resources, barriers, education and training regarding tobacco cessation were collected. Filled up questionnaire were collected after 1 week of distributing the questionnaire. If the questionnaire was not returned within a week, the participants were contacted and reminded in person up to a maximum of 3 times. Those who did not respond even after three reminders were considered as non-responders.

In-patients from each unit of mentioned study specialties were selected by random sampling. They were administered oral questionnaire by the first author. It consisted of general details (such as name, age, sex and occupation), disease status if any, smoking index, willingness to quit, physician counseling if any and other details regarding tobacco cessation practices and perspectives.

Ethical clearance was obtained from Institutional Ethics Committee of JSS Medical College, Mysore. Free and informed consent was obtained from the participants prior to administering the survey.

Data entry was done in excel sheets. Descriptive statistics like proportion (percentage) was calculated for qualitative data. To test the association between categorical variables Chi-square test was applied. Analysis was performed with Epi.info version 3.5.3 and \(P<0.05\) was considered to be statistically significant.

**RESULTS**

The survey achieved a response rate of 65% with 147 physicians of total 227 returning the questionnaires. The distribution of the physicians by medical specialty was as follows: 32% - Medicine, 27.2% - Surgery, 6.8% - Psychiatry and 34% - Other departments.

Almost 95% of physicians said that they ask patients about their smoking status and 94% advise them to quit smoking, but only 50% assist the patient to quit smoking and only 28% arrange follow-up visits [Table 1]. Physician participation in smoking cessation activities varied across the targeted medical specialties. Psychiatrists were the most likely to participate in most cessation activities and was statistically significant [Table 2].

Average time spent by most physicians with patients discussing to quit smoking at each visit was around 2 min. While 38.7% spent between 2 and 5 min, 36.1% spent less than 2 min, whereas 16.3% spent 5-10 min discussing to quit smoking with patients [Figure 1].

Five out of every 10 physicians reported they “usually” discussed counseling options with smokers, while one in 10 never did [Table 3]. Almost all the physicians who said...
that they practiced counseling usually were practicing face to face brief counseling.

Only 18% and 35% of the physicians said that Undergraduate Medical Education and Post Graduate Medical Education respectively prepared them very well to participate in smoking cessation activities. The remaining said that it was inadequate or not at all. Nearly 31.3% of physicians knew that a tobacco de-addiction center was present in their institutional premises. Furthermore 30.6% knew of any other tobacco de-addiction center in the city [Table 3].

Only two out of every 10 physicians usually prescribed pharmacotherapies, of which Nicotine Gum and Buproprion were the most prescribed. Psychiatrists were more likely (70%) to prescribe than others, whereas surgery and other specialties were least likely to prescribe [Tables 2-4].

Nearly two-thirds physicians believed that it is their role to address smoking cessation with patients. Majority agreed that each possibility suggested in the survey (Help, Motivate, Discuss, Speak with family, Refer, Monitor) was part of a physician's role. Virtually all respondents reported that a physician's role includes assisting patients who are motivated to stop smoking and motivating patients to stop smoking [Table 4].

Over 63% of physicians reported that resources were unavailable to assist patients to stop smoking. Eight out of every 10 reported that individual counseling (79.6%) was available and seven out of every 10 reported that pharmacotherapies were available. Over 40% reported that group programs were available. In describing their experience of barriers to assist patients to quit smoking, four barriers were identified by more than half of physicians as significant. These included - in descending order - Patients not motivated to quit, limited contact time with patients, patients being less compliant and coverage for cessation interventions is limited [Table 4].

The responses by physician to a series of general knowledge questions on tobacco use and treatment effectiveness was compared with findings of clinical studies on tobacco use described in recent scientific literature.[5,8-11] Majority of physicians reported perspectives consistent with the literature. More than four-fifths correctly knew that physician advice motivates patients to quit, that smoking is a chronic relapsing disorder and intensive interventions were more effective than brief treatment. Interestingly nine out of every ten physicians incorrectly agreed that medication was effective only when accompanied by counseling. Approximately half incorrectly agreed that smoking cessation interferes with recovery from chemical dependency [Table 5].

| Percentage of physicians who “Usually” | Physicians N=147 n (%) | Patients n=40 n (%) |
|----------------------------------------|------------------------|---------------------|
| Ask about smoking status               | 140 (95.2)             | 142 (72.5)          |
| Advise patient to stop smoking         | 138 (93.9)             | 100 (78.0)          |
| Assess patient willingness to quit     | 101 (68.7)             | 100 (58.0)          |
| Assist patient to quit smoking         | 74 (50.3)              | 100 (26.0)          |
| Refer patients who smoke to others for appropriate cessation treatment | 73 (49.7) | 100 (8.0) |
| Monitor patient progress in attempting to quit | 53 (36.1) | 100 (10.0) |
| Arrange follow-up visits with patient to address smoking | 41 (27.9) | 100 (6.0) |

* N=142 for “Ask” as all the patients were asked that particular question, whereas for other questions N=100 as those who did not smoke were not asked further questions. Numbers in parenthesis indicates percentage.

| Table 2: Smoking cessation practices by specialty |
|-------------------------------------------------|
| Physicians who “Usually” | Medicine N=47 n (%) | Surgery N=40 n (%) | Psychiatry N=10 n (%) | Others N=50 n (%) | P value |
| Ask about smoking status | 47 (100) | 38 (95) | 10 (100) | 45 (90) | 0.118 |
| Advise patient to stop smoking | 47 (100) | 35 (87.5) | 10 (100) | 46 (92) | 0.077 |
| Assess patient willingness to quit | 37 (78.7) | 28 (70) | 9 (90) | 27 (54) | 0.025 |
| Assist patient to quit smoking | 37 (78.7) | 13 (32.5) | 9 (90) | 15 (30) | 0.000 |
| Refer patients who smoke to others for appropriate cessation treatment | 23 (48.9) | 19 (47.5) | 7 (70) | 24 (48) | 0.616 |
| Monitor patient progress in attempting to quit | 25 (53.2) | 12 (30) | 7 (70) | 9 (18) | 0.003 |
| Arrange follow-up visits with patient to address smoking | 17 (36.2) | 7 (17.5) | 7 (70) | 10 (20) | 0.010 |
| Treatment strategies “usually” prescribed | Pharmacotherapies 15 (31.9) | 4 (10) | 7 (70) | 3 (6) | 0.000 |
| Counseling | 31 (66) | 18 (45) | 8 (80) | 19 (38) | 0.086 |

Numbers in parenthesis indicates percentage.
Out of the 142 patients interviewed, 40% were from Department of Medicine, 25% from Surgery, 20% from Pulmonology and the rest from the remaining study specialties. All were males, as tobacco smoking among females is low as it is considered culturally unacceptable in Indian context and tradition.[12] Of them, 10.5% were diabetics, 13.3% suffered from cardiac disease and 23.2% were suffering from respiratory problems. Among the 142 patients, 40% were current smokers and 34% were former smokers. Among those who smoked, 67% smoked beedies. Among the current smokers, 69% were willing to quit. Health was the top reason (86%) to quit smoking. Patients response to the same questions on the 5 A’s showed a significant gap between their reply and the physician’s reply [Table 1].

**DISCUSSION**

Complete ban on tobacco is not possible. Thus behavioral changes play a very important role in tobacco cessation. It has been clinically proven that smoking is a chronic relapsing disorder. Thus it requires repeated and regular assistance. In this study, 95% of physicians said that they ask patients about their smoking status and 94% advise them to quit, but only 50% assist the patient to quit and only 28% arrange follow-up visits. It is clear from the study that such assistance is not being provided. However, compared with other studies the physicians in this study have shown better participation in cessation activities. In a study conducted by Association of American Medical Colleges, about 86% physicians advised the patients to quit smoking, 84% asked about the patients smoking status, 63% assessed patient’s willingness to quit and 17% arranged follow-up.[8] In another study conducted by Thankappan et al. only 57% of the physicians almost always asked about patient’s smoking status and 77.3% almost always advised the patient to quit.[9] However, in all the studies the physician participation was very low in providing assistance to quit and arrange regular follow-up. Thus, physicians must be encouraged to regularly assist and arrange follow-up with the patients.

Our education system is failing to impart the necessary skills to physicians needed to help patients quit smoking. Just 18% of undergraduates are well prepared to tackle the problem as seen in the study. Reforms in education are needed so as to prepare the physician to effectively address the problem. Understanding factors that could improve education and training in the field of tobacco cessation is important as participation of physician will improve in smoking cessation activities in their patient care. The Undergraduate and Post Graduate curriculum should incorporate sufficient training in tobacco cessation strategies. Conducting continued medical education programs in this regard are also needed to address this problem.

The doctors should be encouraged to treat patients who use tobacco and are willing to quit using the “5 A’s” (Ask, Advise, Assess, Assist and Arrange). It has been proved that pharmacotherapies almost double quit rates yet it is clear from the study that only one fifths of doctors regularly use pharmacotherapies. Thus, physicians should be encouraged to prescribe pharmacotherapies wherever warranted.

Awareness regarding tobacco de-addiction centers is to be made both among doctors and patients and hence that the patients are referred for appropriate cessation treatment.

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**Table 3: Treatment strategies, training and education**

| How often do you discuss treatment strategies with patients | Never | Sometimes | Usually |
|-------------------------------------------------------------|-------|-----------|---------|
| Pharmacotherapies                                           | 55 (37.4) | 61 (41.5) | 29 (19.7) |
| Counseling                                                  | 13 (8.8)  | 57 (38.8) | 76 (51.7) |
| Enlisting support                                           | 38 (25.9) | 53 (36.1) | 50 (34)   |
| Training and education                                      | Not at all | Inadequate | Very well |
| Undergraduate medical education                              | 44 (29.9) | 66 (44.9) | 27 (18.4) |
| Graduate medical education                                  | 22 (15)   | 64 (43.5) | 52 (35.4) |
| Continued medical education                                 | 17 (11.6) | 54 (36.7) | 64 (43.5) |
| Knowledge of tobacco                                        | Yes     | No        | Don’t    |
| De-addiction center at workplace                             | 46 (31.3) | 71 (48.3) | 30 (20.4) |
| Other de-addiction centers in city                          | 45 (30.6) | 102 (69.4) | |

Under treatment strategies and training and education, the values don’t add up to 100% as the remaining percentage of physicians did not answer the respective questions. Numbers in parenthesis indicates percentage.

**Table 4: Physician perspective, barriers and pharmacotherapies prescribed**

| Yes n (%)                                                                 |
|--------------------------------------------------------------------------|
| Doctors perspective on physician’s role in addressing smoking cessation   |
| Help patients who are motivated to stop smoking                          | 145 (98.6) |
| Motivate patients to stop smoking                                        | 142 (96.6) |
| Discuss smoking behavior with patients                                   | 132 (89.8) |
| Speak with family about supporting the patient in trying to quit smoking  | 129 (87.8) |
| Refer smokers to others for treatment                                    | 110 (74.8) |
| Monitor patient’s progress in attempting to quit                         | 124 (84.4) |
| Discuss relapse with patients                                            | 125 (85.0) |
| Establish smoking cessation practices for staff                          | 121 (82.3) |
| Significant barriers reported                                            | N=147     |
| Time with patient is limited                                             | 98 (66.7)  |
| Coverage for cessation interventions is limited                          | 93 (63.3)  |
| Patients have more immediate problems to address                        | 78 (53.1)  |
| Patients are not motivated to quit                                       | 101 (68.7) |
| My experience with intervening with smokers is limited                   | 51 (34.7)  |
| Other practice priorities reduce my ability to address smoking with patients | 56 (38.1)  |
| Cessation heightens patients other symptoms                              | 47 (32.0)  |
| Patients usually fail to quit                                            | 97 (66.0)  |
| Pharmacotherapies prescribed                                             | N=29      |
| Nicotine gum                                                              | 12 (43.0)  |
| Bupropion                                                                | 10 (35.5)  |
| Nicotine patch                                                            | 5 (18.6)   |
| Nicotine lozenge                                                          | 1 (3.5)    |
| Nicotine nasal spray                                                      | 1 (2.1)    |

Numbers in parenthesis indicates percentage.
The considerable difference between the physicians’ reply and the patients’ reply is noteworthy.

This is one of the very few studies in India to document the doctors’ reported practices to promote tobacco cessation among their patients. The strength of the study is that it compares physicians in different specialties. That the study was done among doctors working in a medical college is a plus point as these colleges are preparing the doctors of tomorrow and it clearly reflects their shortcomings. However, the study cannot be generalized, as doctors working in other settings have not been included. The doctors were asked about their practice regarding the 5 A’s and not the 5 R’s Motivational Intervention (Relevance, Risks, Rewards, Roadblocks and Repetition). Current study has used a self-administered questionnaire rather than a face to face interview which can have effect on the responses.

CONCLUSION

It is clear that lack of knowledge and proper training are hindering tobacco cessation efforts. Medical institutions offer an ideal platform to educate and train, present and future doctors. There is a need for increasing coverage for cessation interventions. Tobacco cessation programs not only protect health but also have monetary benefits, as money spent on buying tobacco products, as well as investing in treatment interventions at later stage is saved. Physicians are the key stakeholders to help patients quit smoking. Unfortunately, most doctors are failing with respect to lack of knowledge, skill and training combined with unavailability of resources such as cessation programs, time and pharmacotherapies.

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### Table 5: Physician general knowledge about tobacco use and treatment interventions

| N=147 | Clinical | Agree | Disagree | Don’t know |
|-------|---------|-------|----------|------------|
| Physician advice motivates patients to quit (USPHS) | True | 120 (81.6) | 21 (14.3) | 6 (4.1) |
| Smoking is a chronic relapsing disorder (An et al., 2004) | True | 118 (80.3) | 23 (15.6) | 6 (4.1) |
| Intensive interventions are more effective than brief treatment (USPHS) | True | 120 (81.6) | 22 (15) | 5 (3.4) |
| Smoking cessation interferes with recovery from chemical dependency (Bobo et al., 1999; Fletcher, 1993) | False | 72 (49) | 57 (38.8) | 18 (12.2) |
| Medication is effective only when accompanied by counseling (Hughes, 1999) | False | 136 (92.5) | 6 (4.1) | 5 (3.4) |

The citations for clinical literature are given with each statement,[5,8-11] Numbers in parenthesis indicates percentage. USPHS – United States public health service.
