

Brief smoking cessation interventions by family physicians in northwestern Ontario rural hospitals

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Introduction: We report on physicians' beliefs, confidence and clinical practice relative to the provision of smoking cessation interventions in northwestern (NW) Ontario, where tobacco use and tobacco-related disease prevalence are high and smoking cessation services are scarce.
Methods: Physicians working at the 12 rural hospitals in NW Ontario were eligible for inclusion in the study. Survey items included clinical practices based on the "5 A's" protocol for tobacco intervention, and beliefs about, confidence in, and barriers and facilitators to intervention.
Results: Physicians from 8 of the 12 hospitals responded. Almost all (> 91%) reported positive beliefs about providing smoking cessation interventions and were confident intervening. Relative to the 5 A's protocol for tobacco intervention, 100% of respondents ask, advise, assess and assist patients to quit smoking, and 89% arrange follow-up. The most frequent methods of assistance included pharmacotherapy, suggestions of specific actions to make it easier to quit and recommendations for alternatives to tobacco use. The most frequent barrier to intervenion was lack of time.
Discussion: Based on respondents' positive beliefs, confidence and current clinical practice relative to tobacco interventions, physicians in NW Ontario seem well positioned to play a key role in helping to reduce the high rates of tobacco use and tobacco-related diseases by providing smoking cessation interventions to patients who have been admitted to hospital.

Introduction : Notre rapport fait le point sur l'opinion, la confiance et la pratique des médecins en ce qui a trait à l'application de mesures antitabac dans le Nord-Ouest de l'Ontario, région où la prévalence du tabagisme et des maladies liées au tabac est élevée et où les services d'aide à l'abandon du tabac sont peu nombreux.
Méthodes : Les médecins de 12 hôpitaux ruraux du Nord-Ouest de l'Ontario pouvaient participer à l'étude. Le questionnaire portait sur les pratiques cliniques inspirées du protocole «5 A», sur l'opinion et la confiance des répondants à l'endroit des interventions et sur les facteurs susceptibles d'empêcher ou de faciliter leur mise en œuvre.
Résultats : Les médecins de 8 hôpitaux sur 12 ont répondu. La plupart (> 91 %) ont déclaré croire au bien-fondé des interventions antitabagisme et ont affirmé croire en leur efficacité. Vis-à-vis du protocole d'intervention antitabac 5 A, 100 % des répondants ont dit l'appliquer (c.-à-d., s'informer auprès de leurs patients, les conseiller, évaluer leur motivation et les aider à cesser de fumer) et 89 % ont dit exercer une forme de suivi. Les méthodes les plus fréquemment utilisées étaient, entre autres, la pharmacothérapie, des suggestions de mesures spécifiques à adopter pour faciliter l'abandon du tabac et la recommandation de solutions de rechange à l'usage du tabac. L'obstacle aux interventions le plus souvent invoqué était le manque de temps.
Discussion : Compte tenu de l'opinion favorable des répondants vis-à-vis des interventions antitabac, de leur confiance à cet égard et des pratiques cliniques actuelles, les médecins du Nord-Ouest de l'Ontario semblent en bonne position pour jouer un rôle clé dans la lutte au tabagisme et pour contribuer à réduire les taux élevés de tabagisme et de maladies liées au tabac en offrant des interventions antitabac à leurs patients hospitalisés.

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INTRODUCTION

We report on physicians' beliefs, confidence and clinical practice relative to the provision of smoking cessation interventions to in-patients in northwestern (NW) Ontario rural hospitals. Tobacco use is the leading preventable cause of premature morbidity and mortality in developed countries,[1,2] and a substantial number of hospital admissions in Canada are attributable to tobacco-related diseases.[3] The provision of smoking cessation interventions to patients who are admitted to hospital has the potential to have a major impact on health and the costs and use of health care. Immediate benefits include significantly fewer intraoperative and postoperative complications and decreased recovery time.[4] Longer-term health benefits include decreased acute myocardial infarction or reinfarction, decreased cardiac and all-cause mortality,[5] and decreased hospital admissions and health care costs.[6–8]

Perhaps more so in NW Ontario than in the province's larger urban areas, physicians have the opportunity to play a key role in reducing the high rates of tobacco-related diseases. The smoking rates in NW Ontario are among the highest in the province[9] yet there are few smoking cessation services available in the rural communities. Clinical practice guidelines for smoking cessation recommend that physicians provide at least brief interventions (1–3 min) for their in-hospital patients who use tobacco.[10] Most medical associations have their own smoking cessation practice guidelines (e.g., Ontario Medical Association[11]), all of which follow the "5 A's" protocol: Ask patients if they use tobacco, advise them to quit, assess readiness to quit, assist with quitting (using counselling, cessation materials and first-line pharmacotherapy) and arrange follow-up.[10] Brief interventions (1–3 min) can be effective, although cessation increases with the intensity and frequency of the interventions provided.[10]

Both acceptance of smoking cessation interventions and cessation rates are higher for hospital-admitted patients than for the general population of smokers.[12] Provision of smoking cessation interventions during a hospital stay capitalizes on a "teachable moment" — smokers are more receptive to cessation initiatives when they feel vulnerable to illness, especially those with a smoking-related disease.[13] And the hospital situation supports cessation — many patients are too ill to go outside to smoke, they are removed from their daily cues to smoke and, because of hospital smoking bans, many will at least temporarily become nonsmokers and undergo their worst withdrawal during a hospital stay.[14]

METHODS

Sample and survey administration

All physicians working in rural communities in NW Ontario with an acute care hospital were eligible for participation in the study. The communities included Dryden, Sioux Lookout, Red Lake, Kenora, Fort Frances, Atikokan, Nipigon, Terrace Bay, Geraldton, Marathon, Manitouwadge and Hornepayne. The survey was distributed across communities from March to September 2007. We invited physicians to hospital presentations to inform them of the study, and study posters were placed around the hospitals. Distribution of the surveys to physicians was performed by each hospital; we encouraged hospitals to place surveys in physicians' hospital mailboxes as the preferred method for distribution. All surveys included a stamped return envelope. Hospitals were provided with a tally sheet to record the number of surveys distributed.

Measures

The survey instrument was adapted from a previously published survey.[15] The survey addressed 5 areas of smoking cessation: 1) physicians' clinical practices during patients' hospital stays based on the 5 A's protocol for tobacco intervention (18 items measured on a 4-point scale from "never" to "frequently"), 2) beliefs about tobacco interventions (5 items measured on a 4-point scale from "strongly disagree" to "strongly agree"), 3) confidence to provide interventions based on the 5 A's protocol (8 items measured on a 4-point scale from not "confident" to "very confident"), and 4) barriers and 5) facilitators to intervention (a series of 29 items in a check-all-that-apply format).

Basic demographics were also collected: area of specialization, years worked in current area of practice, employment status (full- or part-time) and tobacco use status. Also included were questions about the existence of hospital protocols or policies for identification and documentation of tobacco use, the types of materials available in the hospital to support tobacco interventions, perceived role relative to smoking cessation intervention, amount of time spent per patient counselling for smoking cessation, previous smoking cessation training received and desire for future smoking cessation training.

The survey and protocol, part of a larger study designed to determine the system- and clinician-level adherence to smoking cessation clinical practice guidelines, received ethics clearance.

Data analyses

The denominator used to calculate the survey response rate included information from 2 sources — tally sheets from hospitals for the total number of surveys distributed to physicians, and, for hospitals that did not keep a tally, the total number of physicians working in the hospital according to senior management. Descriptive statistics were computed for the characteristics of the respondents, beliefs and confidence relative to smoking cessation intervention, adherence to the 5 A's protocol, and barriers and facilitators to providing tobacco interventions during hospital stays.

RESULTS

Response rates and sample

Of the 12 hospitals eligible for participation in the study, 8 distributed surveys and 4 did not, representing a hospital participation rate of 67%. Of the 8 hospitals that distributed surveys, 4 distributed them directly to physicians and provided a tally of the number of surveys that were distributed (n = 33) and 4 hospitals simply put the surveys in the staff room for physicians to pick up. For the latter 4 hospitals, the number of physicians working in the hospital was used to determine the denominator (n = 47). Thirty-five physicians at the 8 participating hospitals completed surveys, resulting in a physician response rate of 44% (35/80). If the number of physicians working in the 4 hospitals that did not participate in the survey is included in the denominator, the survey responses represent 33% of all physicians working in the 12 rural hospitals in NW Ontario including the 4 hospitals that did not participate (35/105).

Sample

A description of the respondents can be found in Table 1. Preferences for future smoking cessation intervention training formats, in order of preference, included brief in-services (43%), 1-hour workshop (40%), self-study (31%) and half-day workshop (20%). None of the respondents wanted a full-day workshop.

Beliefs, confidence and clinical practice relative to the 5 A's protocol

A summary of respondents' beliefs and confidence about providing smoking cessation interventions are provided in Table 2. All (35/35) of the respondents reported that they at least sometimes ask, advise, assess and assist patients to quit smoking, and 89% (31/35) reported arranging follow-up. Forty percent of respondents (14/35) reported spending 1–3 minutes providing smoking cessation interventions for each patient who smoked, 46% (16/35) reported 10 minutes and 14% (5/35) reported spending more than 10 minutes. Details of the types of interventions provided by the respondents are shown in Table 3.

Facilitators to smoking cessation intervention

Respondents noted a number of factors that encouraged them to provide smoking cessation interventions to their patients (Table 4). The 3 most prevalent factors were knowledge that smoking cessation is the most cost-effective intervention to prevent chronic disease and cancer, knowledge that smoking cessation can improve the health of patients and the belief that helping patients to stop using tobacco is part of the role and responsibilities of physicians.

Table 1. Demographic information and beliefs of the 35 physicians who responded to the survey

Variable	No. (%) of respondents*
Area of specialization	
Family practice	30 (86)
Other	5 (14)
Mean no. of years in clinical practice (SD) [range]	13 (9) [1–35]
Employment status	
Full-time practice	29 (83)
Part-time practice	6 (17)
Locum	0 (0)
Tobacco use	
Never	26 (76)
Formerly	4 (12)
Daily	0 (0)
Occasionally	4 (12)
Missing	1 (3)
Received training for smoking cessation counselling	15 (43)
Smoking cessation intervention is part of the health care provider's role	
Not at all	0 (0)
Somewhat	3 (9)
Very much	32 (91)

SD = standard deviation.
*Unless otherwise indicated.

Barriers to smoking cessation intervention

There were few factors that respondents noted as barriers to smoking cessation intervention during hospital stays (Table 5). Only lack of time was noted by more than 50% of respondents as a barrier.

Table 2. Beliefs and confidence of the 35 respondents about smoking cessation intervention

Beliefs* and confidence†	No. (%) of respondents‡	Mean (SD) score on 4-point scale
Beliefs about tobacco interventions		
Health education on the risk of tobacco use is an important area of health care provision	35 (100)	2.6 (0.5)
Health care providers should educate other tobacco users in the patient's household about tobacco use, if at all possible	35 (100)	2.6 (0.5)
Health care providers should use every opportunity to educate patients about the health effects of tobacco use	35 (100)	2.5 (0.6)
Health care providers should advise patients to quit using tobacco even when help is not requested	35 (100)	2.6 (0.5)
Brief advice to help patients stop tobacco use is effective	33§ (97)	2.1 (0.8)
Confidence about providing tobacco interventions		
Advising tobacco users on how to quit using tobacco	35 (100)	2.4 (0.7)
Teaching tobacco users about the general health risks of using tobacco	34§ (100)	2.7 (0.5)
Discussing different methods of quitting tobacco use	34 (97)	2.6 (0.7)
Giving advice about nicotine replacement therapy	34 (97)	2.6 (0.7)
Finding out tobacco users' beliefs about tobacco use and health	34 (97)	2.3 (0.7)
Counteracting tobacco users' negative attitudes about giving up tobacco	34 (97)	2.2 (0.8)
Negotiating a target date for patients to quit using tobacco	34 (97)	2.2 (0.9)
Using leaflets and other written material to help patients quit	31§ (91)	2.1 (1.0)

SD = standard deviation.
*Measured on a 4-point Likert scale from 0 ("strongly disagree") to 3 ("strongly agree").
†Measured on a 4-point Likert scale from 0 ("not at all confident") to 3 ("very confident").
‡Respondents who responded "agree" or "strongly agree" for belief items, and "confident" or "very confident" for confidence items.
§Only 34 respondents answered this item.

Table 3. Clinical practice of the 35 respondents relative to the 5 A's protocol for smoking cessation intervention

5 A's protocol for tobacco intervention	No. (%) of respondents*	Mean (SD) score on 4-point scale†
Ask about tobacco use and tobacco history	35 (100)	2.8 (0.5)
Advise patients to quit tobacco use		
Advise patients to quit using tobacco	35 (100)	2.9 (0.3)
Explain harmful effects of tobacco use to patients	35 (100)	2.8 (0.5)
Explain how tobacco use might have contributed to patients' illness	35 (100)	2.8 (0.4)
Explain the harmful effects of second-hand smoke	35 (100)	2.4 (0.7)
Assess readiness to quit		
Encourage patients who have relapsed to try quitting again	34 (97)	2.8 (0.6)
Motivate patients to quit using tobacco	34 (97)	2.6 (0.7)
Help patients to set a quit date	33 (94)	2.1 (0.9)
Assist patients with quitting		
Suggest specific actions to make quitting or cutting down easier	34 (97)	2.6 (0.7)
Recommend or suggest nicotine replacement therapies	34 (97)	2.5 (0.7)
Instruct the patient in the use of pharmacotherapy for cessation	34 (97)	2.3 (0.8)
Recommend alternatives to using tobacco to patients	34 (97)	2.1 (0.9)
Recommend or suggest buproprion	33 (94)	2.4 (0.8)
Teach coping skills to patients to prevent relapse	32 (91)	1.9 (0.9)
Offer self-help cessation materials to patients	31 (89)	1.8 (1.0)
With consent, discuss patients' tobacco use with family members	31 (89)	1.6 (1.0)
Arrange follow-up and referrals for cessation assistance		
Refer patients to cessation resources	31 (89)	1.9 (0.9)
Refer patients to cessation counselling	24 (69)	0.2 (1.1)

SD = standard deviation.
*Respondents who reported they provide the specific intervention noted.
†4-point Likert scale: 0 (never), 1 (seldom), 2 (occasionally), 3 (frequently).

The other 2 factors most noted as barriers were lack of patient interest or motivation to quit, and heavy workload.

Hospital protocols about smoking cessation intervention and patient materials available

Forty percent of respondents indicated that hospitals had a protocol for identifying and documenting tobacco use (14/35), and 20% (6/35) reported a hospital protocol for providing and documenting smoking cessation counselling. Sixty percent of respondents (21/35) reported that hospitals displayed posters encouraging smoking cessation, 49% (17/35) reported pamphlets or self-help materials were available in-hospital, 29% (10/35) reported quit-line contact information was available in-hospital, and 17% (6/35) reported community-based smoking cessation program information was available.

DISCUSSION

Physicians in 8 of the 12 rural hospital communities in NW Ontario responded to the survey about smoking cessation practices. The majority were in full-time family practice. All respondents held positive beliefs about providing smoking cessation interventions during patients' hospital stays, were confident about intervening and spent at least some time with patients discussing tobacco (the majority spent 1–10 min). All respondents reported following the first 4 steps of the 5 A's protocol for tobacco intervention (ask, advise, assess, assist), and 89% reported following the fifth step (arrange). The most frequent methods to assist patients to quit smoking included pharmacotherapy, suggesting specific actions to make quitting or cutting down easier, and recommending alternatives to using tobacco. Only 1 barrier to providing interventions was reported by 50% or more of respondents (lack of time), whereas many factors that encouraged interventions were noted.

These findings represent among the highest adherence rates to all steps in the 5 A's protocol reported in the literature. Similar to our study, most published studies (primarily from the United States and Europe) show that a high proportion of physicians ask patients about tobacco use and advise them to quit, but unlike our study, few (usually less than 50%) assess readiness to quit, assist with quitting other than recommending pharmacotherapy, or

Table 4. Responses of 35 physicians about factors that facilitate smoking cessation intervention

Factors that facilitate tobacco intervention*	No. (%) of respondents who agree
Quitting is the most cost-effective intervention to prevent chronic disease	30 (86)
Knowledge that quitting tobacco use can improve the health of patients	29 (83)
Belief that helping patients to stop using tobacco is part of role and responsibilities	29 (83)
Patients' motivation to quit using tobacco	27 (77)
Reasonable workload that allows time to intervene with smoking cessation	27 (77)
Belief that helping patients to stop using tobacco is a high priority	27 (77)
Adequate skills in smoking cessation counselling	24 (69)
Sufficient knowledge about tobacco and health	22 (63)
Resources available to help with smoking cessation interventions	22 (63)
Confidence in helping patients to stop using tobacco	19 (54)
Past successes helping patients to quit	18 (51)
Support from colleagues	15 (43)
Support from management	13 (37)

*Measured on a "check-all-that-apply" list.

Table 5. Responses of 35 physicians about barriers to smoking cessation intervention

Barriers to tobacco intervention*	No. (%) of respondents who agree
Lack of time	23 (66)
Lack of patient interest or motivation to quit	17 (49)
Heavy workload	15 (43)
Lack of resources (e.g., human resources)	10 (29)
Past intervention experiences tended to be unsuccessful	8 (23)
No existing hospital mandate or policy to intervene	7 (20)
Lack of availability of educational materials	6 (17)
Lack of smoking cessation counselling skills	4 (11)
Belief that tobacco use is a coping mechanism for patients under stress	3 (9)
Belief that unwanted advice upsets the physician–patient relationship	2 (6)
Belief that helping patients to stop using tobacco is of low priority	2 (6)
Limited effectiveness of tobacco cessation interventions	2 (6)
Limited direct patient care	2 (6)
Lack of confidence in delivering smoking cessation interventions	2 (6)
Lack of recognition/rewards/reimbursement for intervening	2 (6)
Lack of knowledge about tobacco's effect on health	1 (3)
Lack of support from colleagues	1 (3)
Discomfort with suggesting patients alter their lifestyles	1 (3)

*Measured on a "check-all-that-apply" list.

arrange follow-up.[16–18] Results from the only other Canadian study we could find showed similar results to our study. In that study, general practitioners in Montréal, Que., reported favourable attitudes toward their role in cessation counselling, provided various interventions to their patients and indicated that the top barriers to providing interventions were lack of time and patients not being interested in quitting.[19]

Limitations

The data for our study were self-reported and not validated by medical charts or patient input. Other studies suggest that respondents tend to overreport, rather than underreport, desirable smoking cessation–related activities.[16] The measurement format could have encouraged some overreporting relative to recall differentiation over the last year of "seldom, occasionally and frequently" using various smoking cessation steps in the 5 A's protocol. However, all physicians reported spending at least 1–3 minutes counselling their patients, more than half spent more than 3 minutes and no one reported not counselling patients at all.

CONCLUSION

Based on the positive beliefs, confidence and current clinical practice relative to tobacco interventions reported in our study, physicians in NW Ontario seem well positioned to play a key role in helping to reduce the high rates of tobacco use and tobacco-related diseases by providing smoking cessation interventions to patients during hospital stays. There are many resources to help develop in-patient smoking cessation programs, including materials from professional associations[20] and published sources.[21] Most provinces have insurance billing codes to encourage physicians to provide smoking cessation counselling to their patients,[11,22] and smoking cessation training programs with continuing medical education credits are also available.[20]

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