

On the front line of smoking cessation: Education needs of community pharmacists

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Background: Nicotine replacement therapy (NRT) is now available without prescription, and pharmacists have an opportunity to be the primary health care professionals advising patients who want to try this smoking cessation aid. Undergraduate pharmacy education in Canada incorporates some tobacco-related training, and continuing education opportunities are available. However, there are no published reports of the self-reported educational needs of a broad sample of practising Canadian community pharmacists with regard to smoking cessation.

Methods: Practising community pharmacists in four Canadian provinces were surveyed about their tobacco-related education and knowledge, practice environment, practices related to helping people quit smoking, needs for further information and training, and methods by which this information might be delivered.

Results: A corrected response rate of 72% was obtained, giving a weighted *n* of 960 responses. Most Canadian community pharmacists reported that they would find it helpful to receive additional information or training on a wide range of smoking cessation topics, such as

behavioural counselling techniques and motivating patients to quit. Pharmacists who reported that they were familiar with aids such as *Helping Your Patients Quit Smoking: A Cessation Guide for Pharmacists* (Canadian Pharmacists Association) and who reported that the guide had led them to make changes in their practice were more likely to report that additional information or training would be helpful. Pharmacists who perceived their tobacco-related clinical and non-clinical roles to be important were more likely to report that additional training would be helpful than were those who perceived these roles as less important.

Conclusions: Although most Canadian community pharmacists would find it helpful to receive additional smoking-related information and training, those who perceive this to be an important activity and who are already using available materials showed the most interest. The challenge to Canadian pharmacy educators is to encourage the enthusiasm of those already interested in helping their patients to quit smoking, while raising the level of interest and motivation among all community pharmacists.

Nicotine replacement therapy (NRT), in the form of gum and patches, is now sold in Canadian pharmacies without a prescription. This change has put pharmacists on the front line of contact with patients considering the use of NRT for smoking cessation. However, little is known about the readiness of Canadian pharmacists to assume this particular role or, for that matter, to assume proactive smoking cessation roles with all patients who smoke. In particular, it is not known whether practising pharmacists want further education on topics related to smoking cessation.

Pharmacists are well positioned to advise patients about quitting smoking.^{1,2} Furthermore, it has been shown that quit rates are higher among patients who receive smoking cessation advice from trained pharmacists paired with the use of NRT than among patients who use NRT without advice.³⁻⁶ Advice from pharmacists is a cost-effective way for the health care system to deliver smoking cessation information⁷⁻¹⁰; in addition, patients who receive such advice from pharmacists report high levels of satisfaction with the service.^{11,12}

Despite the evidence that pharmacists can significantly affect patients' smoking habits, tobacco-related undergraduate education in Canada is less than ideal.^{13,14} In a US study, few practising community pharmacists reported that they had received training in advising patients on quitting

smoking or that they were familiar with clinical practice guidelines in this area.¹⁵ Those who had received formal training or had attended an educational program were more likely to advise patients on smoking cessation. Recently, specific educational programs for undergraduate,¹⁶ postgraduate¹⁷ and practising^{18,19} pharmacists have been developed and evaluated. However, there are no published reports of practising pharmacists' perceptions of which aspects of smoking-related education would be most helpful to them or the methods by which they would like to receive such education.

As part of a survey of Canadian community pharmacists in four provinces,²⁰ we asked pharmacists about the helpfulness of additional information or training with regard to

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Acknowledgements: This project was funded by the National Cancer Institute of Canada (grant 012161). Preparation of the proposal was funded by the National Cancer Institute of Canada, Canadian Tobacco Research Initiative (planning grant 010631).

a range of topics related to smoking cessation. We also assessed their views of the helpfulness of various methods of receiving this information. In this paper, we report the topic and method-delivery preferences of the respondents and relate these preferences to respondents' use of smoking-related guidelines and materials and to their perceptions of the importance of pharmacists' roles in tobacco control.

Methods

The methods for our survey are described in more detail in an accompanying paper on pharmacists' perception of their roles in this area (see page 33).²⁰ Briefly, questionnaires about pharmacists' tobacco-related knowledge, attitudes, role perceptions, practices, and educational needs were sent to practising community pharmacists in four Canadian provinces: Ontario, Prince Edward Island (PEI), Quebec, and Saskatchewan. Material was translated into French for use in Quebec; pharmacists in any province could request material in the language other than that supplied. The survey method was based on Dillman's work.²¹ Each pharmacist in the sample received an introductory letter from his or her provincial pharmacists' association or regulatory authority one week before the anonymous questionnaire was mailed. A reminder postcard was mailed to everyone one week after the questionnaire, followed by two follow-up mailings to nonrespondents. Data were collected in the summer and fall of 2002.

Respondents

A total of 996 completed questionnaires were received, for a corrected response rate of 72% (after those who were ineligible or could not be reached had been removed from the denominator). Data were weighted to allow for the dif-

KEY POINTS

- Pharmacists in four provinces were surveyed on smoking cessation training needs.
- Topics most helpful included: behavioural counselling techniques and motivating patients to quit.
- Pharmacists more likely to suggest NRT than behavioural techniques to patients.
- Existing CE tools generally well accepted.
- CE format preference: workshops, lectures, guidelines.
- Pharmacists' interest in this counselling correlates to their belief in its importance.
- Major opportunity for additional CE.

fering probability of being selected in each province. Pharmacists who spent less than 5% of their time in patient contact roles were excluded. The total weighted sample size was 960 eligible respondents.

Data analysis

The helpfulness of information topics and the helpfulness of methods of receiving information were summarized according to the following four-point scale: extremely helpful, somewhat helpful, not very helpful, and not at all helpful. To test relationships with other variables, the helpfulness of information topics was dichotomized as extremely helpful versus the three other categories combined. For questions about perceived roles, a factor analysis identified three groups of roles: assessing and motivating patients; assisting, referring, and following up patients; and non-patient-care roles (including advocacy,

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Topic	Response; % of respondents (95% CI)			
	Extremely helpful	Somewhat helpful	Not very helpful	Not helpful at all
Initiating discussions with patients about smoking (<i>n</i> = 951)	34.3 (31.3–37.3)	46.5 (43.4–49.7)	15.9 (13.6–18.2)	3.2 (2.1–4.4)
Assessing patients' dependence on nicotine (<i>n</i> = 951)	35.9 (32.9–39.0)	50.3 (47.1–53.5)	11.9 (9.9–14.0)	1.8 (1.0–2.7)
Motivating patients to quit smoking (<i>n</i> = 936)	43.6 (40.4–46.7)	45.7 (42.5–48.9)	9.1 (7.3–11.0)	1.6 (0.8–2.4)
Counselling on behavioural techniques for quitting smoking (<i>n</i> = 949)	49.7 (46.5–52.9)	44.1 (41.0–47.3)	5.4 (4.0–6.9)	0.8 (0.2–1.3)
Use of NRT and bupropion for smoking cessation (<i>n</i> = 948)	35.5 (32.4–38.5)	47.9 (44.7–51.1)	14.0 (11.8–16.2)	2.6 (1.6–3.6)
Referral options for smoking cessation in your community (<i>n</i> = 952)	37.6 (34.5–40.7)	50.0 (46.9–53.2)	10.9 (8.9–12.8)	1.5 (0.7–2.3)
"Stages of Change" model (<i>n</i> = 929)	28.9 (26.0–31.8)	56.2 (53.1–59.4)	13.5 (11.3–15.7)	1.4 (0.7–2.2)
Follow-up or tracking of patients' progress in quitting (<i>n</i> = 952)	31.9 (28.9–34.8)	53.9 (50.7–57.1)	12.8 (10.7–14.9)	1.4 (0.7–2.2)

CI = confidence interval; NRT = nicotine replacement therapy.

TABLE 2 — Relationship between respondents' use of materials intended to help them address patients' smoking and perceived helpfulness of additional information or training on smoking-cessation-related topics^a

Topic of additional training or information	Familiar with CPhA guide ²³			CPhA guide ²³ has led to changes in practice with patients			Has used or is using any other materials to help pharmacists address patient smoking		
	Yes (n = 333)	No ^b (n = 543)	OR (95% CI)	Yes (n = 204)	No ^b (n = 121)	OR (95% CI)	Yes (n = 375)	No ^b (n = 501)	OR (95% CI)
Initiating discussions with patients	37.8	34.2	1.17 ns (0.88–1.55)	40.9	26.8	1.89* (1.16–3.08)	39.1	31.0	1.43* (1.08–1.89)
Assessing dependence on nicotine	35.1	38.0	0.88 ns (0.66–1.17)	36.1	27.5	1.49 ns (0.91–2.43)	39.5	34.5	1.24 ns (0.94–1.63)
Motivating patients to quit	43.3	44.9	0.94 ns (0.71–1.23)	47.9	30.1	2.13† (1.33–3.43)	47.9	41.3	1.31* (1.01–1.72)
Counselling on behavioural techniques	50.7	50.2	1.02 ns (0.77–1.34)	55.0	38.6	1.95† (1.23–3.08)	48.0	51.7	0.86 ns (0.66–1.13)
Use of NRT and bupropion	34.8	37.2	0.90 ns (0.68–1.20)	37.9	24.6	1.86* (1.13–3.08)	36.3	35.7	1.03 ns (0.78–1.36)
Referral options for smoking cessation in your community	35.8	38.6	0.89 ns (0.67–1.17)	37.4	28.6	1.49 ns (0.92–2.42)	37.5	38.5	0.96 ns (0.73–1.26)
“Stages of Change” model	25.1	31.7	0.72* (0.53–0.98)	28.7	15.1	2.26† (1.27–4.05)	29.8	28.8	1.05 ns (0.78–1.41)
Follow-up or tracking of patients' progress	32.7	31.5	1.06 ns (0.79–1.41)	37.9	18.9	2.63† (1.54–4.49)	37.0	29.8	1.38* (1.04–1.83)

^a Data (except OR values) are presented as percentage of respondents in each category who perceived information or training on the topic as extremely helpful; ^b reference group; * $p < 0.05$; † $p < 0.01$; ‡ $p < 0.001$. CPhA = Canadian Pharmacists Association; OR = odds ratio; CI = confidence interval; ns = not significant (at $\alpha = 0.05$); NRT = nicotine replacement therapy.

public education, research, and reducing smoking among pharmacists). For each respondent, the role importance scores for each role group were calculated, and the respondents were then categorized as “high” (above the median) or “low” (at or below the median) for each group. Relationships between topic helpfulness and the other variables were analyzed using chi-square tests for association. Odds ratios, Wald 95% confidence intervals (CIs) and likelihood-ratio *p*-values are presented. All analyses were conducted using SAS software, version 8.2 (SAS Institute, Cary, NC).

Results

Additional information or training

At least 80% of the respondents indicated that it would be extremely or somewhat helpful to receive additional information or training on each of the eight tobacco-related topics suggested (Table 1). Additional information regarding counselling on behavioural techniques and motivating patients to quit was considered the most helpful, with 49.7% and 43.6% of respondents, respectively, indicating that information on these topics would be extremely help-

ful. Information on the “Stages of Change”²² model and follow-up of patients' quit progress were the topics least likely to be considered extremely helpful (28.9% and 31.9% of respondents, respectively).

Information needs

Approximately 38% of respondents reported being familiar with the Canadian Pharmacists Association's (CPhA) *Helping Your Patients Quit Smoking: A Smoking Cessation Guide for Pharmacists*²³; 63% of these pharmacists reported that the guide had led them to make changes in their practice (Table 2). Familiarity with the guide was not statistically associated with pharmacists' desire for additional information or training on smoking-cessation-related topics. However, among respondents familiar with the guide, those who reported that the guide had led to changes in their practice were 1.9 to 2.6 times more likely to report that information on most tobacco cessation-related topics would be extremely helpful. In particular, these respondents were 2.63 times as likely to indicate that information on follow-up of patients' quit progress would be extremely helpful (95% CI 1.54–4.49). Only information

TABLE 3 — Relationship between respondents' perception of pharmacists' tobacco-related roles and perceived helpfulness of additional information or training on smoking cessation-related topics^a

Topic of additional training or information	Assessing and motivating patients			Assisting, referring, and following up with patients			Non-patient-care activities		
	High (n = 310)	Low ^b (n = 583)	OR (95% CI)	High (n = 369)	Low ^b (n = 564)	OR (95% CI)	High (n = 337)	Low ^b (n = 557)	OR (95% CI)
Initiating discussions with patients	42.6	31.2	1.64 [†] (1.23–2.18)	45.9	28.1	2.17 [†] (1.64–2.88)	46.1	28.6	2.14 [†] (1.61–2.84)
Assessing dependence on nicotine	41.5	33.8	1.39* (1.04–1.85)	48.0	28.8	2.28 [†] (1.72–3.01)	45.6	30.9	1.87 [†] (1.41–2.47)
Motivating patients to quit	52.7	39.3	1.72 [†] (1.30–2.27)	55.5	36.3	2.19 [†] (1.67–2.88)	55.1	37.2	2.07 [†] (1.57–2.73)
Counselling on behavioural techniques	59.1	45.8	1.71 [†] (1.29–2.26)	61.5	43.1	2.12 [†] (1.61–2.78)	62.3	43.2	2.17 [†] (1.64–2.86)
Use of NRT and bupropion	37.9	34.7	1.15 ns (0.87–1.53)	41.6	32.1	1.50 [†] (1.14–2.00)	43.7	31.1	1.72 [†] (1.30–2.27)
Referral options for smoking cessation in your community	42.0	34.3	1.39* (1.04–1.84)	46.6	30.6	2.00 [†] (1.50–2.61)	45.7	31.7	1.81 [†] (1.37–2.40)
"Stages of Change" model	35.8	25.2	1.66 [†] (1.23–2.23)	40.6	21.1	2.56 [†] (1.91–3.45)	37.6	23.6	1.95 [†] (1.46–2.62)
Follow-up or tracking of patients' progress	43.1	25.8	2.17 [†] (1.63–2.92)	45.4	22.8	2.83 [†] (2.11–3.78)	46.8	22.7	3.01 [†] (2.24–4.03)

^a Data (except OR values) are presented as percentage of respondents in each category who perceived information or training on the topic as extremely helpful. For respondents in the "high" category, the perceived importance of the role was above the median for all respondents; for respondents in the "low" category, the perceived importance of the role was at or below the median for all respondents; ^b reference group. * $p < 0.05$; [†] $p < 0.01$; [‡] $p < 0.001$. OR = odds ratio; CI = confidence interval; ns = not significant (at $\alpha = 0.05$); NRT = nicotine replacement therapy.

on assessing nicotine dependence and on community referral options for smoking cessation was not significantly more likely to be judged extremely helpful by these pharmacists. In addition, pharmacists who were currently using or had previously used any other materials intended to help pharmacists address patients' smoking were significantly more likely than other pharmacists to indicate that additional information on the topics of initiating discussions with patients, motivating patients to quit, and follow-up patients' quit progress would be extremely helpful ($p < 0.05$). There was significant overlap between pharmacists who reported that the CPhA guide led them to change their practice and those who used other smoking-related materials for pharmacists (odds ratio 2.46; $\chi^2 = 12.60$, $p = 0.0004$). Specifically, 57% of those who reported that the guide had affected their practice also reported that they used other materials.

Perception of pharmacists' roles

Respondents who scored above the median in judgements of the importance of the three role groups (assessing and motivating patients; assisting, referring, and following up patients; non-patient-care roles) were significantly more likely than those who scored at or below the median to

report that additional information or training would be extremely helpful for all but one suggested topic (Table 3). The single exception was in the reported helpfulness of additional training in the use of NRT and bupropion (Table 3).

Methods of receiving additional information

Respondents indicated a strong preference for continuing education workshops or lectures and mailings of printed guidelines and materials as methods of information delivery, with 59.7% and 50.3% of respondents, respectively, considering these methods extremely helpful (Table 4). Pharmaceutical detailing and university short courses were the least preferred methods, with only 18.1% and 23.9% of respondents, respectively, considering these methods extremely helpful. Less than one-third (31.6%) reported that Internet resources would be extremely helpful.

Discussion

Most Canadian community pharmacists would find it helpful to receive additional information or training on a wide range of smoking cessation topics. Information on all sug-

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TABLE 4 — Perceived helpfulness of methods of receiving information on nicotine, tobacco, smoking cessation techniques, nicotine replacement therapy (NRT), and bupropion

Topic	Response; % of respondents (95% CI)			
	Extremely helpful	Somewhat helpful	Not very helpful	Not helpful at all
Mailings of printed guidelines and materials (n = 953)	50.3 (47.1–53.5)	41.7 (38.6–44.9)	7.5 (5.8–9.2)	0.4 (0.0–0.9)
Pharmacist conferences (n = 953)	47.5 (44.3–50.7)	43.8 (40.7–47.0)	7.3 (5.6–8.9)	1.4 (0.7–2.2)
Pharmaceutical detailing (n = 950)	18.1 (15.7–20.6)	53.0 (49.8–56.1)	25.0 (22.3–27.8)	3.9 (2.7–5.1)
Continuing education workshops or lectures (n = 952)	59.7 (56.6–62.8)	36.2 (33.2–39.3)	3.8 (2.5–5.0)	0.3 (0.0–0.7)
University or college short courses (n = 945)	23.9 (21.1–26.6)	40.1 (36.9–43.2)	29.0 (26.1–31.9)	7.0 (5.4–8.7)
Internet resources for pharmacists (n = 951)	31.6 (28.7–34.6)	43.3 (40.1–46.4)	19.1 (16.6–21.6)	6.0 (4.5–7.5)

CI = confidence interval.

gested topics would be useful, but those on behavioural counselling techniques and motivating patients to quit were most likely to be judged extremely helpful. In the same survey, as reported elsewhere,²⁰ we found that pharmacists were more likely to suggest pharmacological approaches (e.g., NRT) than to use behavioural interventions with their patients who smoke. Taken together, these findings point to a need for more education on behavioural approaches to smoking cessation for Canadian pharmacists.

The guide for pharmacists on helping patients to quit smoking²³ was produced by the Canadian Pharmacists Association and distributed to all association members in 1998. Just over one-third of respondents reported being familiar with the guide, and of these, almost two-thirds (i.e., n = 204) reported that the guide had led them to make changes in their practice. Pharmacists who had digested the lessons of the guide were hungry for more information, and reported that additional information on most topics would be extremely helpful. In particular, they wanted information about counselling on behavioural techniques, motivating patients to quit, and initiating discussions with patients. In addition, pharmacists who had made use of any other materials designed to help them address patients' smoking habits were more likely to find information on motivating patients to quit and initiating discussions with patients extremely helpful.

Respondents who perceived as important pharmacists' roles in assessing smokers and motivating them to quit, giving specific smoking cessation help to patients, and educating the public and advocating healthy public

policies were also much more likely to want additional information and training on all topics related to smoking cessation. These findings, along with the overlap between pharmacists who reported that the guide²³ had changed their practice and those who used other smoking-related materials, tell us that pharmacists who are particularly interested and involved in addressing smoking among their patients are also most likely to be interested in further information or training. While pharmacy educators should fan the flames of existing enthusiasm among those who are already involved, they also face the challenge of kindling the interest of community pharmacists who are less interested.

Community pharmacists practising in Canada are definitely interested in receiving further information on all topics related to helping their patients quit smoking. Pharmacy educators have an opportunity to develop continuing education offerings on these topics and to make them available in a variety of formats. Interest in this type of education is especially high among those who are already making use of available materials and among those who perceive assistance in smoking cessation as an important role for pharmacists. Thus, professional organizations that set out to educate practising pharmacists in smoking cessation and tobacco control should consider how to increase the interest and motivation of community pharmacists in addressing patients' smoking, in addition to developing training programs. Increasing the salience of smoking cessation within professional pharmacy practice will require creative professional leadership by pharmacy educators and professional associations. ■

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