Primary care physicians have a unique opportunity to systematically deliver effective smoking cessation treatment to their patients who smoke, and smoking cessation counseling by physicians is now considered to be an evidence-based practice. In the 2005 Canadian Tobacco Use Monitoring Survey (CTUMS), 73% of current smokers had visited a physician in the past year, but only 51% said they had received advice to quit or reduce smoking; and 57% were given information on smoking cessation aids. Several physician-related characteristics are positively associated with favourable smoking cessation interventions, including: older age; female gender; working in urban areas and in private settings; positive beliefs and attitudes about the effectiveness of counseling; favourable perceptions about patient responsiveness to advice; perceived self-efficacy; and having received training in smoking cessation.

A number of reports suggest that physician smoking status relates to the quantity and quality of cessation counseling. A number of reports suggest that physician smoking status relates to the quantity and quality of cessation counseling. In this analysis, we hypothesized that physicians who smoke have less favourable beliefs and attitudes and more perceived barriers to counseling than non-smoking physicians and would therefore be less likely to intervene with smokers.

METHODS
Data were collected in two cross-sectional surveys of general practitioners (GPs) in Montreal. GPs were eligible to participate if: 1) their name was registered in the Quebec College of Physicians database, 2) they had an active license, and 3) they had provided patient care in Montreal in the year preceding the survey. English or French questionnaires were mailed to randomly selected GPs in April 2000 and May 2004. If questionnaires were not returned, reminder postcards were mailed at three and five weeks after the initial mail-out. Non-respondents were then telephoned by one of the study investigators to encourage participation. Of 454 eligible participants in 2000, 316 returned a questionnaire; 302 of 463 eligible participants returned a questionnaire in 2004, for a total of 618 participants across years. Detailed information on the survey methods is available.

Study variables
Data were collected on the socio-demographic characteristics of GPs, their practice setting, smoking status, and psychosocial characteristics related to cessation counseling, including: knowledge, beliefs, and attitudes about counseling; self-efficacy to provide effective counseling; perceived barriers to counseling related to both the physician and patient; awareness of the “stages of change” model; interest in learning more about cessation methods and/or in updating skills; and past training in smoking cessation.

Cessation counseling practices in the past three months were measured through four indicators: 1) ascertainment of patient smoking status (8 items; Cronbach's α=0.82); 2) provision of advice; 3) offering smoking cessation aids (2 items); and 4) providing counseling (2 items). The 2005 CTUMS found that 57% were given information on smoking cessation aids. Several reports suggest that physician smoking status relates to the quantity and quality of cessation counseling. In this analysis, we hypothesized that physicians who smoke have less favourable beliefs and attitudes and more perceived barriers to counseling than non-smoking physicians and would therefore be less likely to intervene with smokers.

ABSTRACT
Objective: Smoking cessation counseling practices may differ between physicians who smoke and those who have quit or never smoked.

Method: Of 917 general practitioners (GP) in Montreal mailed self-report questionnaires in 2000 and 2004, 610 provided data on their smoking status and counseling practices.

Results: Seven percent were current smokers, 32% were former smokers, and 61% were never-smokers. Current smokers were more interested than never- or former smokers in learning about counseling methods (64%, 56%, 45%, respectively; p=0.018). In multivariable analyses, current smokers were less likely than never-smokers to ascertain the smoking status of their patients (OR 0.6, 95% CI 0.2-1.6); to provide advice on how to quit (OR 0.6, 0.3-1.3); and to provide complete cessation counseling coverage (OR 0.5, 0.2-1.1). Former smokers were more likely to provide adjunct support (OR 1.5, 1.0-2.4).

Conclusion: GP smoking status was associated with the content of their cessation interventions with patients who smoke. Taking physician smoking status into consideration in the design of cessation training programs may improve cessation counseling interventions.

Key words: Physician smoking; cessation counseling; cross-sectional; mail questionnaire; logistic regression

La traduction du résumé se trouve à la fin de l'article.

A total of 618 (67% of 917 eligible) GPs returned a questionnaire. Data on smoking status were missing for 8 GPs, therefore the analytic sample included 610 GPs. Among these, 7% were current smokers (2% daily and 5% occasional), 32% were former smokers, and 61% were never-smokers. The proportion of current smokers declined from 10% in 2000 to 5% in 2004, while the proportion of former smokers was 31% in 2000 and 34% in 2004. Sex, age, language and clinical setting were significantly associated with GP smoking status (Table 1).

### Table 1. Socio-demographic Characteristics and Practice Profile of General Practitioners According to Smoking Status, Montreal, 2000/4

<table>
<thead>
<tr>
<th>Total (n=610)</th>
<th>Never-smokers (n=370)</th>
<th>Former Smokers (n=195)</th>
<th>Current Smokers (n=45)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Age, years</td>
<td>%</td>
<td>%</td>
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<td>≥55</td>
<td>23</td>
<td>19</td>
<td>32</td>
<td>13</td>
</tr>
<tr>
<td>Language</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>French</td>
<td>76</td>
<td>73</td>
<td>80</td>
<td>89</td>
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<tr>
<td>English</td>
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<tr>
<td>2000</td>
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<tr>
<td>2004</td>
<td>49</td>
<td>49</td>
<td>52</td>
<td>33</td>
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<tr>
<td>Clinical setting*</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Solo</td>
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<td>CLSC†</td>
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<tr>
<td>Other</td>
<td>29</td>
<td>31</td>
<td>24</td>
<td>29</td>
</tr>
</tbody>
</table>

* Categories are not mutually exclusive.  † Centre Local de Services Communautaires (community clinic).

Data on how to quit (6 items; Cronbach’s α=0.89); 3) provision of adjunct support (4 items; Cronbach’s α=0.74); and 4) provision of complete cessation counseling coverage (3 items; Cronbach’s α=0.70). Scores for the first three indicators ranged between 1 and 6 (corresponding to whether or not the GPs provided counseling to all, almost all, more than half, less than half, a few, or none of their patients who smoke); we designated a score ≤3 (i.e., the GP provided counseling to all, almost all, or more than half of patients who smoke) as “favourable”. Scores for the fourth indicator ranged between 1 and 5; again we designated a score ≤3 as “favourable” (i.e., the GP provided counseling for >2 minutes on each occasion, in at least 1 of 3 visits to more than half of smokers). Appendix 1 describes the items comprising each counseling practice.

### Discussion

The proportion of current smokers among GPs in Montreal declined from 10% in 2000 to 5% in 2004. Steady declines in smoking among physicians have been reported in most developed countries, with the prevalence as low as 2% in the USA in 2000.26 The prevalence reported herein is similar to the 3% reported in the 2008 Canadian Physician Health Survey,26 but lower than the 22% reported for Canadian physicians in the international “Smoking: The Opinions of Physicians” (STOP) survey in 2006.24

In our analysis, smoking status was associated with several cessation counseling practices. Compared to non-smokers, GPs who smoke were less likely to ascertain the smoking status of their patients, to provide advice on how to quit, and to provide complete cessation counseling. While the confidence intervals on the estimates include unity (likely related to the small number of smokers), the ORs indicate very strong negative associations between smoking status and these three components of the counseling intervention.

While fewer current than never-smokers in this sample had favourable beliefs and attitudes about counseling, there was little difference between groups in the other psychosocial characteristics.
 investigación. The lower level of intervention among GPs who smoke may reflect that GPs who smoke are reluctant to advise patients on how to quit when they themselves smoke. If GPs are unable to quit themselves, they may feel that they are ill-equipped to help others quit.

Interestingly, GPs who had quit smoking were significantly more likely than current or never-smokers to provide adjunct support for cessation, possibly because they themselves had experienced difficulty quitting and were more aware of the need for concrete support to help smokers to quit.

Our findings are consistent with results from the recent STOP survey, wherein 80% of physicians who smoke compared to 85% of non-smoking physicians asked their patients how much they smoke; 85% compared to 90% advised patients to stop smoking; and 40% compared to 48% assisted patients in developing a plan to quit.24 Similarly, both Ohida et al. (2001) and Underner et al. (2006) reported that non-smoking physicians were more active in their smoking cessation practices than physicians who smoke.18,19

Squier et al. (2006) reported that non-smoking physicians were more likely than physicians who smoked to record patients' tobacco use, but failed to show statistically significant differences in the provision of advice to quit.4 A study among GPs in Finland also concluded that there was no difference in anti-smoking advice given to patients between GPs who smoke and those who do not, with the exception that, compared to their counterparts who smoke, non-smoking male GPs gave more smoking cessation advice to patients with tobacco-related diseases.5

Differences between reports may relate to the measure of smoking cessation counseling practices. While most studies8,15,17,19,24 use single-item indicators, we used a composite indicator which incorporated several items to measure each component of cessation counseling. Single-item measures may not have the same threshold as composite measures in terms of capturing the underlying concept, which may result in discordant findings.27,28 In addition to differences in the measurement of counseling practices, our study included former smokers as a separate category of exposure.

Limitations

Study limitations include that the cross-sectional design does not permit causal inference. Self-reports of both smoking status and counseling practices may result in misclassification bias which could have attenuated the findings towards the null. Selection bias related to non-response may have limited external generalizability of the results.

CONCLUSION

While very few physicians continue to smoke, our findings suggest that their smoking status is associated with the content of the counseling they provide for their patients who smoke. Taking physician smoking status into consideration in the design of cessation training programs may improve cessation counseling interventions.

REFERENCES


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**RÉSUMÉ**

**Objectif** : Déceler les différences éventuelles dans les pratiques de counseling en abandon du tabac des médecins qui fument et de ceux qui ont arrêté ou qui n’ont jamais fumé.

**Méthode** : Sur 917 omnipraticiens de Montréal à qui nous avons posté des questionnaires d’auto-évaluation en 2000 et en 2004, 610 ont fourni des données sur leur usage du tabac et leurs pratiques de counseling.

**Résultats** : Sept p. cent des répondants étaient des fumeurs actuels, 32 % étaient d’anciens fumeurs et 61 % n’avaient jamais fumé. Les fumeurs actuels étaient plus intéressés par l’apprentissage des méthodes de counseling que les répondants n’ayant jamais fumé ou ayant cessé de fumer (64 %, 56 % et 45 %, respectivement ; p=0,018). Selon une analyse multivariée, les fumeurs actuels étaient moins susceptibles que les répondants n’ayant jamais fumé de vérifier si leurs patients fumaient ou non (RC = 0,6, IC de 95 % = 0,2-1,6); de donner des conseils sur l’arrêt du tabac (RC = 0,6, 0,3-1,3); et de proposer des services complets de counseling en abandon du tabac (RC = 0,5, 0,2-1,1). Les anciens fumeurs étaient plus susceptibles de proposer des services complémentaires (RC = 1,5, 1,0-2,4).

**Conclusion** : L’usage du tabac par les omnipraticiens était associé à la nature de leurs interventions auprès des patients fumeurs. En tenant compte du tabagisme des médecins dans la conception des programmes de formation en abandon du tabac, il serait possible d’améliorer les interventions de counseling.

**Mots clés** : tabagisme des médecins; counseling en abandon du tabac; études transversales; questionnaire postal; analyse de régression logistique