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Since the onset of the opioid crisis in Canada, a significant proportion of research and funding has been directed to physicians and their practice. However, pharmacists are the drug experts. We decided to pursue this research to demonstrate the importance of involving pharmacists in all aspects of the problem.

Depuis que la crise des opioïdes sévit au Canada, une proportion considérable du financement et des efforts de recherche a bénéficié aux médecins et à leur pratique. Toutefois, les experts en matière de médicaments, ce sont les pharmaciens. Nous avons décidé de mener cette recherche pour démontrer l'importance de la participation des pharmaciens dans tous les aspects du problème.

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Opioid prescribing and dispensing: Experiences and perspectives from a survey of community pharmacists practising in the province of Quebec

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ABSTRACT

Background: Canada leads in opioid prescription and consumption rates, and this has resulted in high levels of opioid-related morbidity and mortality. Pharmacists' input could contribute significantly to understanding the disadvantages of opioid prescribing and dispensing and improving the service. This study aimed to examine the experiences of community pharmacists in relation to opioid prescribing and dispensing, with a focus on optimizing collaboration and communication.

Methods: An online survey was performed among pharmacists from the province of Quebec, Canada, in 2016. Pharmacists were eligible if registered and working in community pharmacies.

Results: In all, 542 questionnaires were analyzed (participation rate of 8.1%). Pharmacotherapy-related problems were reported in at least 50% of opioid prescriptions: additional drug(s) required (reported by 30% of pharmacists), interaction(s) between opioid(s) and other drug(s) (16%), physician did not meet the general issuing standards for opioid prescriptions (26%) and patient had mild to moderate pain that was easily managed by a nonopioid analgesic (20%). Half of the patients were reported as requesting anticipated refills, possibly indicating abuse or poor pain control. Most pharmacists (89.6%) reported needing to contact physicians in 1 to 3 out of 10 opioid prescriptions, but many pharmacists (71.8%, often or very often) reported difficulties communicating with physicians.

Conclusions: Pharmacists' observations of pharmacotherapy-related problems and patients' unusual behaviours reveal a significant number of issues related to opioid prescribing and dispensing in an outpatient setting. Improved collaboration between physicians and pharmacists appears mandatory to address the issues reported in this study. *Can Pharm J (Ott)* 2018;151:408-418.

Introduction

North America is facing an opioid epidemic. Dependence and misuse are on the rise,¹ and morbidity and mortality from opioid-related poisoning are continuously increasing.²⁻⁴ In recent years, Canada has become the leading country in the world in opioid prescription and

consumption rates for the treatment of pain and these rates are still increasing.^{5,6} This high usage of opioids contributed to an increase in the quantities of these drugs available for illicit activities and in opioid-related morbidity and mortality.⁷⁻¹¹ Since 2010, several authorities have implemented strategies to try to mitigate health

outcomes associated with the nonmedical use of prescription opioids. However, these strategies have yet to yield conclusive results.^{9,12}

Pharmacists' activities involve, among other things, screening prescriptions for legitimacy, ensuring that the drug is appropriate to the patient's condition and therapeutic goals, providing adequate follow-up to ensure that the prescribed drug is safe and effective, and advising other health-care professionals and patients about the optimal use of drugs.¹³⁻¹⁵ Thus, pharmacists' input could contribute significantly to understanding the disadvantages of opioid-related prescription practices, and lead to improvement. Yet, most Canadian studies have investigated medical practices from physicians' perspectives¹⁶⁻¹⁸ or did not query pharmacists about the main issues and possible solutions regarding opioid prescribing and dispensing.¹⁹⁻²¹ Although Kahan et al. surveyed pharmacists from Ontario (Canada) about opioid dispensing and communication with physicians, their coverage of physicians' prescribing practices and pharmacotherapy-related problems was limited.²⁰ This study therefore aims to examine in greater detail the experience of community pharmacists in relation to opioid prescribing and dispensing, with a focus on potential areas of optimization in the collaboration and communication between physicians and pharmacists.

Methods

An online survey was carried out among pharmacists practising in the province of Quebec, Canada, in 2016. The Montreal Public Health Department's Research Ethics Board provided a waiver from ethics review for the survey.

Questionnaire design

To build the questionnaire, a literature search was performed to identify questionnaires used for similar purposes. The search covered the period from January 1, 2015, to February 29, 2016, using keywords such as "prescription opioids," "pharmacists," "survey" and "dispensing" in the following databases: MEDLINE, Embase, Cochrane and PubMed. A first draft was then developed containing 65 questions (in French). Eight inspector pharmacists from the Ordre des pharmaciens du Québec (Quebec College of Pharmacists) reviewed the document. They were tasked with the job of appraising the questionnaire's length (not to exceed 20 minutes), fluidity,

KNOWLEDGE INTO PRACTICE

- Canada is one of the world's leading countries in opioid prescriptions. Pharmacists can play a major role in ensuring optimal opioid use, but few studies have examined their experiences with opioid prescribing and dispensing.
- The results from this study provide evidence that pharmacists do identify many issues with opioid prescribing, such as the lack of appropriate dosage or co-therapy, errors in physicians' application of opioid prescription standards and communication difficulties with prescribers.
- The study highlights that pharmacists could play a significant role in identifying problematic opioid prescribing and dispensing, and suggests that optimizing collaboration and communication with prescribers appears mandatory to improve opioid use.

clarity and potential for biases. A shortened version of the questionnaire was further reviewed by a second group of experts, including a statistician and an epidemiologist.

The final questionnaire included 40 questions and was divided into 5 sections. Section 1 aimed to document how often (never, 1 to 3 out of 10 opioid prescriptions, 4-7 out of 10 opioid prescriptions or 8-10 out of 10 opioid prescriptions) pharmacist participants observed specific concerns regarding physicians' prescribing practices, such as drugs and co-analgesia most frequently prescribed, pharmacotherapy-related problems and patient management. Section 2 was devoted to pharmacists' behaviours and their frequency (same scale as in Section 1) of disagreeing with an opioid prescription issued by a physician or when they dispensed opioids to patients. Section 3 documented issues in the physician-pharmacist relationship, such as frequency and ease of communication and how often they occurred (never, sometimes, often or very often). Section 4 (data not presented) covered pharmacists' training needs regarding opioid dispensing and patient management. Each of those 4 sections included mandatory multiple-choice questions and one optional open-answer question to obtain qualitative data. Finally, section 5 collected sociodemographic and professional characteristics of pharmacist participants.

Definitions

The Quebec Health Record is a secure provincial tool that collects, stores and retrieves patient health information. Health professionals can consult this

MISE EN PRATIQUE DES CONNAISSANCES

- Le Canada est le pays où l'on prescrit le plus d'opioïdes au monde. Les pharmaciens peuvent jouer un rôle important pour assurer une utilisation optimale des opioïdes, mais peu d'études se sont penchées sur leur expérience en lien avec la prescription et la délivrance d'opioïdes.
- Les résultats de cette étude prouvent que les pharmaciens observent de nombreux problèmes associés à la prescription d'opioïdes, comme une posologie inadéquate ou l'absence de traitement d'appoint, des erreurs d'application des normes de prescription des opioïdes par les médecins et des difficultés de communication avec les prescripteurs.
- L'étude souligne que les pharmaciens pourraient jouer un rôle important dans la détection des cas problématiques de prescription et de délivrance d'opioïdes et laisse entendre qu'il est nécessaire d'optimiser la collaboration et la communication avec les prescripteurs pour améliorer l'utilisation des opioïdes.

electronic tool at any time to obtain, among other things, information about all drugs prescribed or sold under pharmaceutical control and served in community pharmacies to their patients.

The federal Narcotic Control Regulations do not permit refills of narcotic drugs. In practice, part fills, which are legal, are used to dispense a quantity of medication that is less than the total amount of drug specified by the prescriber. In our study, an anticipated refill is defined as a part fill given to or asked for by a patient earlier than expected.

Data collection

Pharmacists were invited to participate in the survey through a notice that the Ordre des pharmaciens du Québec (OPQ) sent by e-mail to all its members ($n = 9319$) on November 15, 2016. The notice described the survey and its objectives and included a link to the survey hosted on FluidSurvey. To improve participation rates, the OPQ sent a reminder on December 6, 2016, one week before the end of data collection. The survey was also promoted through one post on the Quebec pharmacists' private Facebook page ($n = 5685$ members) on November 29, 2016. Finally, the Quebec Association of Pharmacy Owners (in Quebec, only a pharmacist can own a pharmacy) sent a notice by e-mail to all its members ($n = 2087$) on December 2, 2016. Participation was anonymous. To be eligible, pharmacists had to be licensed with the OPQ and work in community pharmacies. Pharmacists who did not answer all mandatory questions were excluded from the analysis.

Statistical analyses

Descriptive analyses were performed using frequency distributions. Proportions are reported for single or aggregated categories. Analyses were performed using SAS 9.4 (Cary, NC, USA).

Results

In all, 721 individuals participated in the survey, of whom 141 did not complete all mandatory questions (mostly answering only the first 3 questions) and 38 were not practising in community pharmacies. Thus, 542 questionnaires were included in the final sample. At the time of the survey, 6706 pharmacists were licensed with the OPQ and worked in community pharmacies; therefore, the participation rate was estimated to be 8.1%.

Survey participants' distribution was similar to that of the pharmacist population in the province of Quebec. Briefly, most were females (study: 65%; province: 64%) and salaried employees (study: 69%; province: 69%), rather than pharmacy owners (Table 1).

Pharmacists' observations of physicians' opioid prescribing practices

Table 2 summarizes the pharmacotherapy-related problems and other elements related to opioid prescriptions issued by physicians that pharmacists observed in the preceding month. The frequency of most of these problems was generally low (reported as never occurring or present in 1 to 3 out of 10 opioid prescriptions). However, some pharmacotherapy-related problems were reported by pharmacists more often, either in 4 to 7 or 8 to 10 out of 10 opioid prescriptions: additional drug(s) needed to treat or prevent another medical condition (30.3% of pharmacists), interaction(s) between the opioid(s) and other drug(s) (16.1%), opioid dose susceptible to cause toxicity to the patient (9.4%) and opioid not an optimal choice to achieve the desired therapeutic goal (9%).

Most pharmacists reported that the physician never (90.6%) or rarely (in 1-3 out of 10 prescriptions; 9.4%) provided the diagnostic or the type of pain on the opioid prescriptions. Pharmacists felt this information would be very valuable to evaluate the legitimacy and correctness of the pharmacotherapy (strongly agree: 81.4%; agree: 17.0%) (data not shown).

Table 3 and Table 4 summarize opioids and co-analgesia most frequently prescribed by

TABLE 1 Characteristics of respondents

Variables	Respondents <i>n</i> (%) [*]
Sex	
Male	190 (35.1)
Female	352 (64.9)
Age (years)	
≤29	108 (19.9)
30-39	191 (35.2)
40-49	128 (23.6)
50-59	87 (16.1)
60-69	25 (4.6)
≥70	3 (0.6)
Professional status	
Employee	371 (68.5)
Owner	171 (31.6)
Working schedule	
Part-time—occasional	12 (2.2)
Part-time	135 (24.9)
Full-time	395 (72.9)
Number of total prescriptions processed per pharmacist per day	
≤150	146 (26.9)
151-250	189 (34.9)
251-350	137 (25.3)
≥351	70 (12.9)
Total	542 (100)

^{*}Due to rounding of decimals, percentages may not add up to 100.

physicians in the last month, as reported by Quebec pharmacists.

Pharmacists' opioid dispensing practices

Table 5 summarizes how often pharmacists reported opioid-related patients' behaviours or conditions in the 3 preceding months. Half of their patients requested an anticipated refill of an opioid prescription. Around 10% of patients were suspected of selling illegal drugs or opioids around or near the pharmacy and a similar proportion were suspected of doctor shopping (8.7%), although falsification was rare.

Table 6 summarizes pharmacists' actions when they disagreed with an opioid prescription issued by a physician or when they were dispensing opioids to patients. Approximately 40% of pharmacists (either in 4 to 7 or 8 to 10 out of 10

opioid prescriptions) reported they provided the medication as prescribed by the physician, even when they disagreed, but they verbally told the patient to use a lower dose. Regarding opioid dispensing practices, approximately one-third of pharmacists indicated frequently consulting (in 8 to 10 out of 10 opioid prescriptions) the Quebec Health Record to ascertain if a patient had another active opioid prescription elsewhere. The same proportion reported they frequently warned or advised patients about addiction risks. Reminding patients about safe behaviours with prescription drugs at home appears to be performed with variable frequencies.

Pharmacist-physician communication

Most pharmacists (89.6%) reported needing to contact physicians in at least 1 to 3 out of 10

TABLE 2 Number of pharmacists reporting problems related to opioid prescriptions in the last month

Questions and sub-questions	Number of respondents (N = 542) n (%) [*]			
How often did you observe these pharmacotherapy-related problems following an opioid prescription issued by a physician?	Never	1-3 / 10 Rx	4-7 / 10 Rx	8-10 / 10 Rx
Opioid not required because not clearly indicated for the patient.	241 (44.5)	269 (46.6)	26 (4.8)	6 (1.1)
Additional drug needed to treat or prevent another medical condition.	81 (14.9)	297 (54.8)	123 (22.7)	41 (7.6)
Opioid not an optimal choice to achieve the desired therapeutic goal.	132 (24.4)	361 (66.6)	43 (7.9)	6 (1.1)
Opioid dose too low to achieve desired therapeutic goal.	248 (45.8)	274 (50.6)	19 (3.5)	1 (0.2)
Opioid dose susceptible to cause toxicity to the patient.	176 (32.5)	315 (58.1)	50 (9.2)	1 (0.2)
Interaction(s) between the opioid(s) and other drug(s).	150 (27.7)	305 (56.3)	78 (14.4)	9 (1.7)
Opioid prescribed to a patient with a history of allergies/intolerance/significant adverse effects to this drug.	173 (31.9)	341 (62.9)	27 (5.0)	1 (0.2)
How often did you observe these elements following an opioid prescription issued by a physician?	Never	1-3 / 10 Rx	4-7 / 10 Rx	8-10 / 10 Rx
Patient was not aware that his physician prescribed an opioid to him/her.	239 (44.1)	253 (46.7)	47 (8.7)	3 (0.6)
Patient had mild to moderate pain that could easily be managed by a non-opioid analgesic.	93 (17.2)	340 (62.7)	99 (18.3)	10 (1.8)
Physician prescribed a long-acting opioid, but omitted a short-acting opioid as needed.	197 (36.3)	292 (53.9)	51 (9.4)	2 (0.4)
Physician prescribed renewals instead of fractionation of a total quantity.	95 (17.5)	289 (53.3)	133 (24.5)	25 (4.6)
Physician prescribed a total amount or a quantity of fractionation that is excessive.	166 (30.6)	282 (52.0)	84 (15.5)	10 (1.8)
Physician did not meet the general issuing standards for opioid prescription.	102 (18.8)	298 (55.0)	113 (20.8)	29 (5.4)
Physician's handwriting was illegible and was at risk of misinterpretation.	113 (20.8)	335 (61.8)	79 (14.6)	15 (2.8)
Physician prescribed a long-acting opioid at an interval that was not consistent with the monograph (e.g., 12-h release formulations 3-4 times daily, fentanyl patches change daily).	260 (48.0)	258 (47.6)	24 (4.4)	0 (0)
Physician prescribed too rapid of an increase of the opioid doses, without waiting for the state of equilibrium.	364 (67.2)	159 (29.3)	18 (3.3)	1 (0.2)
Physician prescribed a long-acting opioid to an opioid-naïve patient.	322 (59.4)	207 (38.2)	12 (2.2)	1 (0.2)
Physician prescribed an opioid (with the exception of methadone) to a patient known to abuse of this type of drug.	152 (28.0)	325 (60.0)	60 (11.1)	5 (0.9)

^{*}Due to rounding of decimals, percentages may not add up to 100.
Rx, prescription(s).

TABLE 3 Opioids most prescribed for acute and chronic pain and most problematic

Top 3 most-prescribed opioids for acute/chronic pain	Percentage* (%) of respondents N = 542
Acute	
Hydromorphone (short-acting)	29.2
Morphine (short-acting)	23.8
Codeine combined with acetaminophen (short-acting)	17.5
Chronic	
Hydromorphone (long-acting)	25.8
Fentanyl (transdermal)	23.6
Oxycodone (long-acting)	9.2
Top 5 opioids prescribed most frequently requiring an intervention by the pharmacist with the prescriber	
Fentanyl (transdermal)	44.1
Hydromorphone (short-acting)	38.9
Hydromorphone (long-acting)	24.5
Oxycodone (short-acting)	22.5
Morphine (short-acting)	20.3

*Percentages calculated as the sum of participants reporting prescription drugs as the first, second or third most encountered in their practice; or as the first to fifth most frequently requiring intervention; percentages are not cumulative.

TABLE 4 Drugs prescribed by physicians to patients in addition to opioids

Question and sub-questions	Number of respondents (N = 542) n (%)*	
How often did you observe one or many of the following substances, on the same prescription or in the patient's record, following an opioid prescription issued by a physician?	Rarely	Often
Acetaminophen	130 (23.9)	412 (76.0)
Anticonvulsant	492 (90.8)	50 (9.2)
Antidepressant	412 (76.0)	130 (23.9)
Nonsteroidal anti-inflammatory drug	200 (36.9)	342 (63.1)
Corticosteroid—oral	520 (96.0)	22 (4.1)
Corticosteroid—intra-articular injection	533 (98.3)	9 (1.7)
Sedative or anxiolytic (e.g., benzodiazepines, zopiclone, etc.)	309 (57.0)	233 (43.0)
Nabilone	531 (98.0)	11 (2.1)
Psychostimulant (e.g., methylphenidate, amphetamines)	527 (97.2)	15 (2.8)
Muscle relaxant	298 (55.0)	244 (45.0)

*Due to rounding of decimals, percentages may not add to 100.

Rarely: the sum of never and 1-3 out of 10 opioid prescriptions.

Often: the sum of 4-7 out of 10 opioid prescriptions and 8-10 out of 10 opioid prescriptions.

TABLE 5 Number of pharmacists reporting opioid-related patients' behaviours, in the last 3 months

Question and sub-questions	Number of respondents (N = 542) n (%)*			
How often did you observe these behaviours of potential opioid abuse in patients with opioid prescriptions?	Never	Sometimes	Often	Very often
Patient suspected of selling illegal drugs or opioids around/near the pharmacy.	220 (40.6)	265 (48.9)	50 (9.2)	7 (1.3)
Patient possesses multiple opioid prescriptions; "double-doctoring" suspected.	190 (35.1)	305 (56.3)	46 (8.5)	1 (0.2)
Patient falsified an opioid prescription.	387 (71.4)	153 (28.2)	0 (0)	2 (0.4)
Patient appeared drowsy or under the influence of drugs when presenting a new opioid prescription or asking for a refill.	248 (45.8)	269 (49.6)	18 (3.3)	7 (1.3)
Patient requested an anticipated refill of an opioid prescription.	24 (4.4)	262 (48.3)	189 (34.9)	67 (12.4)

*Due to rounding of decimals, percentages may not add up to 100.

TABLE 6 Pharmacists' behaviours when disagreeing with an opioid prescription or when dispensing opioids

Questions and sub-questions	Number of respondents (N = 542) n (%)*				
When in disagreement with the opioid prescription issued by a physician:	Never	1-3 / 10 Rx	4-7 / 10 Rx	8-10 / 10 Rx	N/A
Increase the fractionation initially prescribed by the physician (e.g., dispensing 30 tablets at a time instead of 100).	107 (19.7)	347 (64.0)	65 (12.0)	23 (4.2)	-
Provide medication as prescribed by the physician, but tell the patient to use a lower dose.	33 (6.1)	273 (50.4)	177 (32.7)	59 (10.9)	-
Refuse the prescription, because there are reasonable grounds to believe that this is in the best interest of the patient.	285 (52.6)	245 (45.2)	7 (1.3)	5 (0.9)	-
Contact the prescriber, propose a change, ask the physician to send the new prescription by fax (in compliance with the 2008.01 standard).	62 (11.4)	383 (70.7)	64 (11.8)	33 (6.1)	-
When dispensing patients with opioid prescriptions:	Never	1-3 / 10 Rx	4-7 / 10 Rx	8-10 / 10 Rx	N/A
Verify if patients have other active opioid prescriptions in the Québec Health Record.	42 (7.8)	177 (32.7)	126 (23.3)	193 (35.6)	4 (0.7)
Warn or advise patients about the risk of addiction associated with the use of opioids.	24 (4.4)	153 (28.2)	170 (31.4)	192 (35.4)	3 (0.6)
Remind patients about the importance of keeping their medicines in a safe or locked place.	110 (20.3)	206 (38.0)	119 (22.0)	103 (19.0)	4 (0.7)
Remind patients about the importance of bringing unused or expired medication to the pharmacy for safe destruction.	98 (18.1)	214 (39.5)	123 (22.7)	103 (19.0)	4 (0.7)

*Due to rounding of decimals, percentages may not add up to 100.

Rx, prescription.

FIGURE 1 Pharmacist-physician communication outcomes in the last 3 months (N = 542)

opioid prescriptions. Figure 1 illustrates issues reported by pharmacists when trying to communicate with the opioid prescriber. Many pharmacists (71.8%; often or very often) reported having difficulties reaching or discussing opioid prescriptions with physicians. A significant proportion of pharmacists reported that some physicians refused to talk to them (57%; occasionally or often). Nevertheless, most prescribers (70%; often or very often) agreed with the pharmacists' recommendations regarding modification of opioid prescriptions.

Table 7 summarizes pharmacists' experiences related to pharmacist-physician communication, beliefs regarding opioid accessibility and confidence in their dispensing competency. Overall, two-thirds of pharmacists (63.6%; agree or strongly agree) reported being comfortable contacting physicians about the legitimacy or correctness of opioid prescriptions. However, 4 out of 10 pharmacists (40.6%; agree or strongly agree) were afraid of damaging their relationship with the physicians if they questioned their prescriptions.

Discussion

To our knowledge, this is the first study extensively addressing the experience of community pharmacists in relation to opioid prescribing and dispensing in Canada. Issues such as the lack of appropriate dosage or co-therapy, errors in physicians' application of opioid prescription standards and communication difficulties with physicians were among the most frequently reported problems.

Our results illustrate the complementary role that pharmacists can play in supporting

physicians in choosing the best pharmacological treatments to provide optimal pain relief, while avoiding drug interactions and adverse reactions and preventing abuse and misuse. Pharmacists' observations of pharmacotherapy-related problems, such as prescription of excessive quantities, or patients with mild to moderate pain manageable by other means, may indicate the need for physicians to engage in interdisciplinary practice and thus more frequently ask the clinical opinion of the pharmacist.¹³⁻¹⁵ Finestone et al. pointed out that pharmacists can play an important role in opioid management.²² Indeed, they have a unique perspective on opioids and act as a bridge between physicians and patients, given their frequent contact with the patients at the pharmacy and their increased presence in family practice teams as clinical consultants.²² Furthermore, most recent guidelines recommend that the prescriber should seek a second opinion regarding the possibility of increasing opioid doses above 90 mg morphine equivalents daily while treating chronic, non-cancer pain.²³⁻²⁵ The application of this recommendation is a good opportunity for increased clinical consultation by physicians with pharmacists. Secondly, pharmacists in our study frequently observed patient behaviours indicative of misuse, abuse or addiction to opioids. In fact, it is quite alarming that pharmacists state that 1 out of 2 patients request anticipated refills, a behaviour that Kahan et al.²⁰ also previously reported. This may be an indication of abuse or poorly controlled pain. A prescription drug monitoring program, currently nonexistent in Quebec, could thus be beneficial to all professionals,²⁶⁻²⁹ helping

TABLE 7 Pharmacist-physician communication, pharmacists' beliefs regarding opioid accessibility and confidence in dispensing capacity

Question and subquestions	Number of respondents (N = 542)			
	n (%)*			
To what extent do you agree or disagree with the following statement?	Strongly disagree	Disagree	Agree	Strongly agree
I am comfortable contacting physicians about the legitimacy or the correctness of opioid prescriptions.	12 (2.2)	186 (34.3)	238 (43.9)	106 (19.6)
I am afraid of impairing my relationships with physicians if I question their prescriptions.	81 (14.9)	241 (44.5)	193 (35.6)	27 (5.0)
I am confident in my ability to detect abuse or misuse of opioids in my patients.	2 (0.4)	80 (14.8)	363 (67.0)	97 (17.9)
I am confident in my ability to discuss abuse or misuse of opioids with my patients.	6 (1.1)	137 (25.3)	311 (57.4)	88 (16.2)
I believe that analgesic tolerance to opioids limits their long-term use.	18 (3.3)	161 (29.7)	276 (50.9)	87 (16.1)
I believe that patients have access to prescription opioids too easily.	4 (0.7)	78 (14.4)	245 (45.2)	215 (39.7)
I am comfortable calculating the conversion doses of commonly used opioids.	8 (1.5)	79 (14.6)	301 (55.5)	154 (28.4)

*Due to rounding of decimals, percentages may not add up to 100.

to reduce misuse and abuse while also addressing many pharmacotherapy-related problems reported by pharmacists in our study.

Our study demonstrates many of the same indirect and direct communication issues between physicians and pharmacists reported by pharmacists in Ontario²⁰ following opioid prescribing. Indirect communication problems, such as illegible handwriting and prescriptions not meeting regulatory standards, were common. In a study by Bricket et al., handwritten opioid prescriptions were associated with a significantly higher rate of errors, discrepancies and variation from ideal practice and government regulations as compared with electronic, health-record, computer-generated prescriptions.³⁰ The authors concluded that electronic prescriptions should be used to improve the safety and relevance of opioid prescriptions. On the other hand, the difficulty or inability of community pharmacists to speak with the prescriber within an acceptable time frame to provide effective patient care is a direct communication problem. Consequently, pharmacists frequently advise patients to use a lower dose than what appears on their written prescription, increasing the risks of confusion and dosage errors. Integration of pharmacists

into primary care teams should provide a significant opportunity for better communication.³¹⁻³³

Encouragingly, community pharmacists in our study were comfortable talking with the prescribers about prescriptions or unusual patient behaviours, in line with a recent study by Fleming et al.,³⁴ but contrasting with results from an older study by Koski.³⁵ This may reflect the increasing clinical role that pharmacists need to play in the overall management of patients' conditions.

Limitations

This study has several limitations. The participation rate by pharmacists was only 8%. However, the sample of participants was comparable to the population of reference with respect to professional status and sex distribution. A social desirability bias might be present, which may be attributed to the collection of data through self-reports; although, its impact was probably limited by the anonymity of the study. Anonymity prevented us from checking for duplicate participation. However, there is little reason to believe that pharmacists completed the survey several times. Respondents might also have been more inclined to participate in the study if they had prior concerns regarding the prescription of opioids, resulting in potential selection

and selective recall biases. The results must then be interpreted with caution because it is possible that the issues identified are overestimated compared to reality. Furthermore, various interpretations of the Likert scales asking the respondents to choose between never and 1 to 3 out of 10 opioid prescriptions may have resulted in measurement bias. The gap between 0% and 10% may have led pharmacists to overuse the 1 to 3 out of 10 opioid prescriptions choice. An example of this potential bias is the fact that 45% of pharmacists refuse opioid prescriptions at a frequency of 1 to 3 out of 10 opioid prescriptions (Table 3), which likely reflects the inability of the scale to capture very rare behaviours. Also, although it is based upon previous literature, the survey instrument has not been tested or validated formally. Finally, our results may not be generalizable to other Canadian provinces because of the potential variations in prescribers' practice, pharmacists' practice and reimbursement of opioids under public and private drug plans.

Conclusion

This study provides important insights into Quebec community pharmacists' experiences and perspectives on opioid prescribing and dispensing. Interventions seem necessary to improve the quality and relevance of opioid prescriptions, considering the high frequency of various issues reported by pharmacists. The high number of requests for anticipated refills by patients also appears to be an indicator of abuse or poor pain control. Moreover, both physicians and pharmacists should systematically consult the Quebec Health Record before prescribing or dispensing opioids. Finally, the results from this study showed a need for increased efficiency and ease of communication between pharmacists and prescribers for the benefit of the patients. To address many issues with opioid prescription, monitoring and abuse reported in this study, electronic prescriptions and the implementation of a prescription drug monitoring program are promising solutions that could be applied in the province of Quebec. ■

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Ethics approval and consent to participate: The Montreal Public Health Department's Research Ethics Board provided a waiver from ethics review for the survey. Consent to participate was assessed by the first question (yes/no) of the survey. Only those who answered yes to that question were included in this study.

Availability of data and material: Copies of the survey (in French only) are available on request. The data that support the findings of this study are available from Institut national de santé publique du Québec, but restrictions apply to the availability of these data, which were used under license for the current study and so are not publicly available. Data are however available from the authors upon reasonable request and with permission of Institut national de santé publique du Québec.

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