

Research

Management of sleep disorder by preceptors in a family medicine residency program in Calgary, Alberta: a mixed-methods study

Sarah Cheung MSc, Maeve O'Beirne MD PhD, Todd Hill PhD, Trudy Huyghebaert PharmD, Shelly Keller BSc Pharm, Martina Kelly MBBCh PhD

Abstract

Background: Most prescriptions for sedative-hypnotics are written by family physicians. Given the influence of preceptors on residents' prescribing, this study explored how family physician preceptors manage sleeping problems.

Methods: Family physician preceptors affiliated with a postgraduate training program in Alberta were invited to participate in this mixed-methods study, conducted from January to October 2021. It included a quantitative survey of preceptors' attitudes to treatment options for sleep disorder, perceptions of patient expectations and self-efficacy beliefs. Participants indicated their responses on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree." Respondents were then asked whether they were interested in participating in a semistructured qualitative interview that elicited preceptors' management of sleep disorder in response to a series of vignettes. We analyzed the quantitative data using descriptive statistics and the qualitative interviews using thematic analysis.

Results: Of the 76 preceptors invited to participate, 47 (62%) completed the survey, and 10 were interviewed. Thirty-two survey respondents (68%) were in academic teaching clinics, and 15 (32%) were from community clinics. The majority of participants (34 [72%]) agreed they had sufficient expertise to use nondrug treatment. Most (43 [91%]) had made efforts to reduce prescribing, and 45 (96%) felt able to support patients empathically when not using sleeping medication. The qualitative data showed that management of sleeping disorder was emotionally challenging. Participants hesitated to prescribe sedatives and reported "exceptions" to prescribing, many of which included indications within guideline recommendations. Participants were reluctant to change a colleague's management.

Interpretation: Preceptors were confident using nonpharmacologic management to treat sleep disorder and hesitant to use sedative–hypnotics, presenting legitimate use of sedatives as exceptional behaviour. Acknowledging social norms and affective aspects involved in prescribing may support balanced prescribing of sedative–hypnotics for sleep disorder and reduce physician anxiety.

veruse of sedatives is associated with substantial health care costs and patient harm, such as falls and cognitive impairment.¹⁻³ It is estimated that, at any given time, about 12% of Canadians use sedatives, increasing to 16.5% among older adults.4 Consequently, avoiding inappropriate use of sedative-hypnotics is a health care priority in Canada.^{5,6} Despite many efforts to reduce prescribing, the numbers of patients prescribed sleeping medication has remained relatively unchanged since 2013.4 To date, most efforts to reduce prescribing have targeted physicians, often emphasizing risks of inappropriate prescribing. Guidelines on the management of insomnia stress patient vulnerabilities to tolerance and dependence, and encourage physicians to use nonpharmacologic approaches as first-line management.^{7,8} More recently, attention has turned to the challenge of deprescribing⁹ or avoiding prescribing in the first place, through use of public messaging such as the Choosing Wisely campaign.5

One area that has received relatively little attention is how physicians learn to prescribe, particularly in the workplace.¹⁰ This is important, as most postgraduate teaching and learning is service-based: residents work with and learn from their clinical preceptors. Family physician preceptors are powerful role models and key influencers of tomorrow's prescribers of sedative–hypnotics. The development of medical learners' clinical practice, including prescribing practice, is influenced by socialization through both formal and informal instruction,^{10,11} such as occurs with role models and mentors. Systematic

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Research

reviews exploring the management of insomnia¹² and the use of sedative–hypnotics by family physicians¹³ showed that these care providers have ambivalent attitudes toward prescribing sedative–hypnotics. Physician attitudes are important, as they influence confidence in practice, the ability to respond empathically to patient requests, and how physicians prescribe for different patient groups.^{14,15} Learners' attitudes, beliefs and behaviour can change as a direct result of interactions with the teacher.¹⁶ A previous study exploring quetiapine use showed the importance of preceptor prescribing practices: participants noted the influence preceptors had on their prescribing after graduation.¹⁷ The preceptor–learner relationship has also been identified as a factor in the formation of prescribing behaviour for antibiotics^{18–20} and insulin.¹⁰

As far as we are aware, preceptor prescribing practices for sedative–hypnotics have not been examined, particularly in family medicine. This is important, as family physicians as a group are responsible for initiating and maintaining most prescribing in the community, including in nursing homes and long-term care facilities, where sleeping medication is often prescribed.^{21,22} In the present study, we aimed to develop an in-depth understanding of how family medicine preceptors manage and prescribe for sleep disorder in clinical practice. Our research question was "How do family physician preceptors in a family medicine residency program in Calgary, Alberta, manage sleep disorders in clinical practice?"

Methods

Study setting and design

This study was carried out in the Family Medicine Residency program at the University of Calgary from January to October 2021. Seventy-six family physician preceptors based in academic teaching clinics (n = 46) or community-based family medicine clinics (n = 30) provide clinical teaching supervision through this program to 70 family medicine residents each year.

This was a mixed-methods study consisting of a quantitative survey and a qualitative interview. Mixed-methods designs build on the individual strengths of qualitative and quantitative data, while supporting the contextualization of findings to make them more usable for stakeholders.²³ We used an explanatory sequential (2-phase) design,²⁴ first collecting and analyzing quantitative data, and then conducting interviews to help interpret the quantitative data and explore the relation between family physician attitudes and practices.

The research team consisted of 2 academic family physicians (M.K., M.O.), 2 pharmacists working in academic clinics (T.H., S.K.), a psychologist (T.H.) and a doctoral student (S.C.).

We carried out the study in accordance with the Checklist for Reporting Results of Internet E-surveys (CHERRIES).²⁵

Data sources

Quantitative

We adapted a tool devised by Creupelandt and colleagues¹⁴ to explore behavioural factors affecting young doctors' prescrib-

ing practice for benzodiazepines. We piloted this tool with 4 family physicians and modified it to better reflect the Canadian clinical setting (Appendix 1, available at www. cmajopen.ca/content/11/4/E637/suppl/DC1). The final survey elicited participant demographic characteristics and contained 14 questions exploring family physicians' attitudes toward treatment options (5 questions), their perceptions of patients (2 questions), their self-efficacy beliefs (3 questions) and their prescribing self-efficacy (4 questions). Participants indicated their responses on a 5-point Likert scale ranging from "strongly disagree" to "strongly agree."

Qualitative

We investigated preceptor attitudes using a semistructured qualitative interview guide that invited participants to outline their management in response to a series of vignettes. We developed vignettes²⁶ to reflect common clinical scenarios, informed by the team's clinical experience and the research literature, which indicates that physicians perceive some patients as more "deserving" of medication, whereas others are less likely to receive a prescription.^{13,27} We piloted the interview guide with 2 clinical preceptor colleagues (not interviewed for the study), and no changes were deemed necessary. A copy of the interview guide is presented in Appendix 2 (available at www.cmajopen.ca/content/11/4/ E637/suppl/DC1).

Recruitment and data collection

All family physician preceptors affiliated with the urban Family Medicine Residency program, University of Calgary were eligible to participate. A letter outlining the study was emailed to the preceptors by the residency program; 2 reminders were sent at an interval of 2 weeks. The letter included a consent form and a link to the survey, hosted on the University of Calgary's Qualtrics site. After respondents completed the survey, they were asked whether they were interested in participating in a qualitative interview. To incentivize participation, survey respondents were offered the opportunity to enter a draw for an Apple watch and were offered \$100 to participate.

Interviews were conducted by 2 pharmacists (T.H. and S.K.), who were known to some of the participants as clinical team members. All participants who volunteered were interviewed (convenience sampling). Interviews were conducted via Zoom to accommodate public health measures during the COVID-19 pandemic, at a time convenient to participants. In keeping with procedures of semistructured interviewing, the interviewers used the schedule as a guide and did not adhere strictly to the order of questions but, rather, were flexible, following new ideas as raised by participants and using prompts to delve further as necessary.²⁸ Interviews lasted between 40 and 70 minutes.

Interviews were audio-recorded and transcribed verbatim by a professional transcription service. Data collection continued until the research team felt that no new information was being added in interviews and that no additional interviews were required.²⁹

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We separated the participants' sociodemographic data from interview data and anonymized the transcripts to protect participant identity. The identifying key was devised and retained by a member of the administrative staff.

Data analysis and integration

We calculated quantitative descriptive statistics for the survey data. To help interpret survey findings, we grouped the responses "disagree" and "strongly disagree" together. We analyzed the qualitative data thematically30 using NVivo version 12 software. Transcripts were read independently by M.K. and S.C. to identify preliminary codes. The preliminary codes were then reviewed by the entire team, and each team member independently applied codes to 2 interview transcripts. The team met to refine codes, and an inductive codebook was generated. S.C. and M.K. then coded the entire data set using a mix of deductive and inductive coding. Initial subthemes and themes were discussed within the team and refined iteratively through a series of team meetings until the final thematic structure was agreed on and no new themes were identified. Analysis was enhanced by team reflexivity, drawing on the diverse backgrounds of the research team members.

We used the survey findings to help interpret and deepen qualitative data analysis. Aggregated responses from the survey questions informed the codes used to explore the interview data. We further explored for areas of convergence and divergence between the 2 data sets.

Ethics approval

This study was approved by the University of Calgary Conjoint Health Research Ethics Board (REB20–0451). We provided all participants with consent forms detailing the length of time of their participation, the purpose of the study and the investigators involved. All participants provided consent before participating. Any required collection of personal information for the study (e.g., demographic information) adhered with the University of Calgary's data protection policies and was outlined to participants on the consent form provided before participation.

Results

Of the 76 family physician preceptors affiliated with the urban Family Medicine Residency program, 47 (62%) completed the survey, and 10 family physicians were interviewed. Thirty-two survey respondents (68%) were in academic teaching clinics, and 15 (32%) were from community clinics. The participants' demographic characteristics are shown in Table 1.

Survey data

Practitioner confidence in managing sleep disorder using nonpharmacologic approaches was generally high (Table 2). Thirty-seven participants (79%) disagreed that nondrug treatment of sleep problems needs to be supported with medication, and 5 participants (11%) believed the advantages of sleep medication outweigh the disadvantages. Forty-two partici-

physician preceptors			
	No. (%) of participants		
Characteristic	Survey n = 47	Interview n = 10	
Sex			
Female	24 (51)	6 (60)	
Male	19 (40)	4 (40)	
Nonbinary	1 (2)	0 (0)	
Missing	3 (6)	0 (0)	
Years in clinical practice			
< 5	3 (6)	1 (10)	
6–15	19 (40)	6 (60)	
≥ 16	25 (53)	3 (30)	
Type of clinic			
Academic teaching	32 (68)	8 (80)	
Community	15 (32)	2 (20)	

Table 1: Demographic characteristics of participating family

pants (89%) disagreed or strongly disagreed that management of sleep problems was the role of other professionals. Almost three-quarters of respondents (34 [72%]) agreed or strongly agreed they had sufficient expertise to use nondrug treatment, and most (33 [70%]) did not feel overwhelmed managing patients with psychosocial problems.

The results indicated widespread efforts to reduce prescribing of sleep medication (43 participants [92%]), with broad success (33 [70%]). Almost all respondents (45 [96%]) felt able to support patients empathically when not prescribing sleep medication.

Participants' perceptions of patients' expectations diverged. Twenty-one participants (45%) responded neutrally to the statement that patients would be dissatisfied if they did not prescribe medication, 11 (23%) agreed or strongly agreed with this statement, and 15 (32%) disagreed or strongly disagreed. Twenty respondents (43%) agreed or strongly agreed that it was difficult for family physicians to motivate patients to choose nonmedicine treatment, whereas 21 (45%) disagreed or strongly disagreed with this statement.

Interview findings

We identified 3 overarching themes from the interview data: preceptors' general approach to managing sleeping problems, preceptor hesitancy prescribing medication (which we termed "sedative wariness") and preceptors' "exceptions" to their general approach (Table 3; Appendix 3, available at www. cmajopen.ca/content/11/4/E637/suppl/DC1).

General approach to managing sleep disorder

Sleeping problems were viewed as complex, with a wide differential. History-taking, including "delving into the story

Research

Table 2:	Survey	responses	
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	Response; no. (%) of participants				
			n = 47		
Survey domain; item	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Attitude toward treatment options					
1. The advantages of sleep medication outweigh the disadvantages	10 (21)	19 (40)	13 (28)	5 (11)	0 (0)
2. There are no nondrug alternatives for sleep problems that are as effective as drugs	25 (53)	12 (26)	4 (8)	3 (6)	3 (6)
3. I don't have time to treat sleep problems using nondrug therapies	10 (21)	24 (51)	8 (17)	3 (6)	2 (4)
4. Nonmedicine treatment of sleep problems is the business of other professionals	21 (45)	21 (45)	3 (6)	1 (2)	1 (2)
5. Nondrug treatment of sleep problems needs to be supported with medication	12 (26)	25 (53)	10 (21)	0 (0)	0 (0)
Perceptions of the patient					
6. If I do not prescribe a medication to a patient with sleep problems s/he is dissatisfied	3 (6)	12 (26)	21 (45)	10 (21)	1 (2)
7. It is difficult for a family doctor to motivate a patient with sleep problems to choose a nonmedicine treatment	3 (6)	18 (38)	6 (13)	16 (34)	4 (8)
Self-efficacy beliefs					
8. When I am not prescribing medication for sleep problems I feel like I am not empathic	17 (36)	28 (60)	1 (2)	0 (0)	1 (2)
9. I have the expertise to use nondrug treatment for sleep problems	0 (0)	5 (11)	8 (17)	27 (57)	7 (15)
10. I often feel overwhelmed when a patient presents with psychosocial problems	8 (17)	25 (53)	9 (19)	5 (11)	0 (0)
Prescribing self-efficacy					
11. I have tried in the past to prescribe less sleep medication	1 (2)	0 (0)	3 (6)	25 (53)	18 (38)
12. I intend to prescribe less sleep medication but don't know how	5 (11)	23 (49)	13 (28)	6 (13)	0 (0)
13. I am trying at the moment to prescribe less sleep medication but without success	8 (17)	27 (57)	7 (15)	4 (8)	1 (2)
14. I am trying at the moment to prescribe less sleep medication and have succeeded in doing so	0 (0)	2 (4)	12 (26)	27 (57)	6 (13)

behind the insomnia," was key. Practitioners described this process as exploring the "bigger picture," to "get a sense" of things or looking "in the background," as well as identifying patients' main concerns in relation to the impact of sleep difficulty and their expectations around sleep. Participants emphasized the importance of acknowledging patients' distress. Treatment was described as challenging, necessitating a highly individualized approach to care. As noted by 1 participant, this made prescribing decisions for sleep disorder different from those for other disorders such as hypertension. Treatment was not considered "black and white" but, rather, required comfort with uncertainty.

Sedative wariness

Most participants promoted nonpharmacologic approaches to sleep disorder, including sleep hygiene and cognitive behavioural therapy for insomnia (CBT-I), as first-line treatment. Participants reported using a wide suite of educational resources, including customized patient information leaflets, to support nonpharmacologic management.

Participants hesitated to initiate drug therapy, while acknowledging they perceived that patients often expected them to do so. They described their attitudes toward medication in affective terms (e.g., "not loving" or "hating" sedatives). Only 1 participant openly acknowledged prescribing sedatives, describing their approach as "old school" in their openness to prescribe medication as a first-line treatment despite being aware of colleagues' hesitancy to prescribe them. There was an ethical dimension alongside the emotional one whereby participants justified "rule-breaking" as "doing the right thing for the patient."

Research

Table 3 (part 1 of 2): Qualitative analysis of family physician preceptors' management of sleeping problems		
Theme; subtheme	Illustrative quote	
General approach to sleep dise	order	
Sleeping problems are a symptom, not a diagnosis	I would want to really flesh that out first. So, asking why is it that you're not sleeping and what's going through your mind when you're lying down, and I would suspect that that would unearth quite a bit of emotional baggage and grief, maybe depression. — Participant 4	
	Explore those bigger picture things, and just try to really get a sense of this patient's context. — Participant 6	
	Look at all the other factors that might be affecting this person Who knows what else is going on? — Participant 8	
Acknowledging patient distress	Sleep is an emotional discussion, right? People get very upset about the lack of sleep, or perceived poor sleep. [Patients] who are not getting sleep lose the ability to be perfectly rational. — Participant 3	
	You need to balance compassion for the patient's experience, much like depression or anxiety. It affects different people in different ways. And so, you can never really assume how debilitating or bothersome someone's insomnia is. — Participant 4	
Individualizing care: balancing risks and breaking rules	Insomnia treatment is very challenging You need to balance compassion for the patient's experience But that needs to be balanced with the fact that a lot of the most common treatments that people have been on or exposed to or heard about are quite dangerous or risky when misused. — Participant 4	
	It's very dissimilar to the approach to a lot of other meds Like managing asthma it's individual medicine, it doesn't follow guidelines. It's like you're breaking rules so that you can actually do what's right There [are] as many ways to manage substance use and sleep and pain as there are people who have those problems You really have to do it differently every time. — Participant 2	
	I don't have a sort of formula for it. — Participant 7	
	It's a very situational kind of thing. — Participant 8	
	You have to be really comfortable with uncertainty. — Participant 2	
Sedative wariness		
Nondrug treatment as first-line	I try to avoid medication wherever possible or at least build it into a more comprehensive plan. — Participant 4	
	I try to focus first on nonpharmacological interventions whenever possible, whether [the problem is] organic or not organic. — Participant 2	
Medication hesitancy	I'm not a huge one in favour of medications. I don't believe in medications. If we do use them, try not to use the benzos, use the tricyclic or something else, depending on the patient, whether it's safe or not. — Participant 8	
	I'm not a huge fan of Zopiclone. But I might use Zopiclone. And why? Just because it's super short-term I don't love the benzos. I certainly don't want [patients] to take Gravol. Because we just know it doesn't benefit the sleep cycle it makes things worse. I think benzo is similar to treating your sleep with booze, which many people do. You get sleepy with booze, but then it wrecks the sleep cycle. So then over time [patients] get more tired and may get more depressed. — Participant 1	
	There's a lot of fear that you're going to harm the patient. There's a lot of fear that if you prescribe [sedatives] as an attending, the [regulator] is going to come after you. — Participant 2	
	So Z-drugs, I use very, very sparingly. — Participant 9	
	I am slightly — I call it crazy — I hate [Z]-drugs, and usually when patients talk to me about insomnia, they want a Z-drug I'm very hesitant about it I think all of these drugs to treat insomnia sometimes mask the problem. — Participant 3	
	I also try and get [patients] to not jump to medication as a first line. And if they're going to take a medication route, to just be aware of the breadth of different options. — Participant 4	
	Benzos seem to be pretty taboo right now. Or, like in the past few years, they've really gotten a really bad rap. — Participant 10	
Exceptions to general approac	h	
The exceptional indication	There are definitely significant exceptions regarding Z-drugs, I have easily 5 patients I can think of that I do prescribe without question for There are totally reasonable exceptions, but I won't understand if a person meets my reasonable expectation or exception criteria if I don't have this conversation with them. So with an acute stressor I think that we had come up with this a little bit in talking about some of my past examples, I automatically see a lane into my exception pathway. — Participant 3	
	I feel comfortable in choosing patients that I'm going to be able to get off of [sedatives] once we get them through whatever. — Participant 2	

Research

Table 3 (part 2 of 2): Qualitative analysis of family physician preceptors' management of sleeping problems		
Theme; subtheme	Illustrative quote	
Prescribing for another physician's patient	You can't step into another provider's shoes and expect to change a multidecade treatment plan over the course of a week. — Participant 4	
	How do you manage a treatment plan that you maybe don't personally agree with but that has been initiated by another prescriber? And so, the idea of immediate patient safety being a number one consideration and then not trying to go off and do your own thing, but involve their provider in whatever you want to do or whatever you think needs to be done as a long-term plan. — Participant 4	
	Not my patient, don't have a relationship with them, hard to have a tough conversation [about deprescribing]. — Participant 3	
	There are some of our colleagues that if you were to try and suggest some alternative strategies would be [pause] a little sensitive. — Participant 5	
	This is one of those things, it's not my patient, I have to sort of "Band-Aid" the situation. — Participant 8	

When exceptions become the norm

Although participants stated explicitly they aimed to use nonpharmacologic management approaches and were wary of using medication, all reported they did, at times, prescribe sedatives. These were presented as deviations from routine care, collectively termed "valid exceptions." Exceptions were nevertheless consistent across interviewees, representing a social norm. This included prescribing sedatives for short-term use, for patients presenting with acute grief or stress reactions, or in situations in which the physician carefully balanced risks and harms as part of harm-reduction strategies. Physicians' descriptions of their prescribing in such situations was in keeping with guidelines, yet they presented this prescribing as concessionary and atypical, and expressed discomfort with "breaking the rules." Rather than rely on diagnostic criteria, physicians often justified these decisions based on experience and personal knowledge of the patient.

A second exception to sedative prescribing was treating a colleague's patient. Participants hesitated to change a colleague's management. Management for this group of patients was presented as a "bridge" or "Band-Aid" that could be uncomfortable.

Synthesis of quantitative and qualitative results

Our results showed distinct areas of agreement between the quantitative and qualitative data. Interview data supported the survey findings that physicians are confident in managing sleep disorder and are committed to nonpharmacologic approaches as first-line treatment.

In interviews, participants evinced wariness and discomfort around prescribing sedatives alongside commitment to patient empathy and recognizing patient distress. Tension in balancing these factors may have contributed to the survey participants' responses to questions regarding whether they believed patients would be dissatisfied if they did not prescribe medication, and whether participants found it difficult to motivate patients to choose nonmedicine treatment. All interview participants recognized that medication could play a role in managing sleep disorder, particularly in acute settings, but were hesitant to acknowledge this, describing prescribing in such situations as "exceptions."

Interpretation

Our findings indicate that family physician preceptors in our setting emphasized an approach to sleep disorder management that starts by understanding the problem; sleep disturbance was viewed as a symptom, not a diagnosis. Preferred management involved patient education and nonpharmacologic treatments such as sleep hygiene and CBT-I. Participants navigated patient expectations, adopting shared decision-making approaches, on a case-by-case basis. However, participants were hesitant to prescribe medication, even when legitimately indicated, and they used holding strategies to manage colleagues' patients.

To interpret our findings further, we reflected on the social history of sedative and hypnotic use. Although there was widespread use of this class of medications in the 1980s, contemporary literature and policy emphasize the inherent risks, with a focus on preventing or avoiding initiation of therapy and deprescribing.^{2,9} Although our participants expressed self-efficacy in management as individuals, their prescribing was also affected by social norms. There was a shared understanding that prescribing was something to be avoided, which resulted in emotional dissonance for participants as they attempted to practise patient-centred care.

One possible interpretation of our data is that family physicians have become avoidant of sedative-hypnotics, even in cases in which they may have a helpful role. This phenomenon has been suggested in the case of opioids.^{31,32} Social taboo around prescribing sedatives was noted in an earlier UK study, in which a reluctance on the part of older family physicians to be interviewed on the topic was observed. The authors suggested that this "may reflect the blame, shame and lingering responsibility felt by longer-practising family physicians."27 That study also showed that current practitioners felt "a sense of responsibility for avoiding the risks associated with past benzodiazepine use." Balancing the risks and benefits of treatment while accounting for the patient's context is at the heart of evidence-based medicine.^{33,34} Although our data suggest that is how family physician preceptors approached the management of sleep disorder, there was also an unintended collusion of medication avoidance.

Our findings draw attention to emotional and social aspects of prescribing, which can conflict with guidelines. There was an implicit corollary between being a "good physician" and avoiding sedative use. For some physicians, this social norm, as re-enforced by monitoring of prescribing³⁵ and censure of colleagues, resulted in prescribing wariness or avoidance. This meant that some patients who could have benefitted from short-term use of such medication were denied treatment. If all sedative–hypnotic use is labelled harmful by default, patients may be denied medication that could ease distress in the acute setting³⁶ or offset risks in situations of harm minimization. Critical reflection of prescribing dilemmas, which allows for exploration of social norms, expectations and empathic patient care, could enable a deeper sense of selfefficacy, identified as foundational for prescribing.^{13,14}

Several participants perceived patients as expecting medication and felt it was challenging to dissuade them from wanting medication. However, research shows that, if patients are made aware of the risks, they are open to alternative approaches, particularly when providers are supportive.^{3,37} More open dialogue may thus in fact help relieve some of the emotional burden or dissonance that practitioners may experience. A complexity view of prescribing could explore prescribing praxis to inform educational interventions with a view to improving prescribing in family medicine residency programs.

The findings of this study will be used to inform resident training on the use of sedatives and hypnotics in our program.

Limitations

The study was set in Calgary, where 84% of primary care physicians practise in the patient medical home model of care,³⁸ with access to behavioural health consultants and CBT-I. Barriers to extended services, such as access to mental health supports, are often cited as a reason why physicians are more likely to prescribe medication than to refer to other services.¹³ The majority of our participants worked in academic teaching clinics, which may not have similar time pressures as community practice. Also, because all our participants were teaching physicians, our findings cannot be extrapolated to represent prescribing practices of all family physicians. Furthermore, our qualitative data are limited to physicians working in academic teaching clinics.

Our study would benefit from replication in other provinces, where clinical services may differ, and inclusion of broader community physician representation. Interviews were conducted by pharmacists known to the participants, which may have led to social desirability bias. The vignettes used drew on our clinical experience and may not reflect the experience of physicians outside our setting. Furthermore, despite our use of vignettes, our participants' self-reported behaviour may have differed from actual behaviour when unobserved.

Conclusion

Family physician preceptors in our setting were overall confident in their use of nonpharmacologic management of sleep disorder, adopting evidence-based approaches as first-line treatment. Most were hesitant to prescribe sedative-hypnotics. Legitimate use of sedatives was presented as exceptional behaviour, when it was actually the norm across participants. Interventions targeting individual physician's attitudes, complemented by a balanced approach to permitted use of medication, might result in more open discussion on the use of this group of medication. In this way, fundamental challenges of sedative prescribing, which are emotional and social, and are rarely addressed in guidelines, could be discussed rather than avoided.

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Affiliations: Department of Family Medicine (Cheung, O'Beirne, Hill, Kelly), University of Calgary; Department of Family Medicine (Huyghebaert), South Health Campus Family Medicine Teaching Clinic, University of Calgary & Alberta Health Services; Crowfoot Primary Care Network (Keller), Calgary, Alta.

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