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Patient values and preferences regarding communicating risk versus benefit of benzodiazepine initiation: A cross-sectional survey study

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Abstract

Background and Aims: Communicating information about the risks and benefits of benzodiazepines so that it is meaningful to the patient has not been previously described. This study aims to determine patient preferences regarding information received before initiating a benzodiazepine.

Methods: An online survey was distributed through social media and advertisements to Canadians ≥18 years old over a 6-month period (May–Oct 2022) to collect participant's rating of importance of statements and factors about the risk and benefits of benzodiazepines before initiating treatment using a 10-point Likert-type scale. Treatment preferences based on efficacy and risk information were also elicited. The survey was developed and pilot-tested in collaboration with an advisory committee of individuals with lived and living experience with benzodiazepine use.

Results: Thirty-seven participants responded to the survey (mean age 30 years old, 81.1% identified as female). The majority of respondents had a history of anxiety (83.8%) or insomnia (32.4%), and 10 (27.0%) respondents had used a benzodiazepine. Patient counseling related to withdrawal symptoms of benzodiazepines, risk of harm in combination with other sedating agents, risk of physical and psychological dependence, and risk of effects on cognition were rated high in the importance of receiving this information before starting a benzodiazepine relative to efficacy endpoints, such as improvement in sleep parameters. When provided with information about the chance of efficacy and risk of harm, 100% would have selected cognitive behavioral therapy as the best treatment option. The most frequently reported source of medication information where patients have sought information was from the internet (25.0%), followed by doctors (21.9%) and pharmacists (18.8%).

Conclusions: This study identified patient important factors and statements viewed as important to communicate before initiating a benzodiazepine. The findings of this

survey study will help inform decision-making when considering treatment options for managing anxiety or insomnia.

KEYWORDS
benzodiazepines, medication counseling, medication decision-making, patient preferences

1 | INTRODUCTION

Benzodiazepines are widely prescribed for the short-term use of anxiety and insomnia.[1–3] However, many people use benzodiazepines for longer periods than recommended by clinical practice guidelines[4–10] and the long-term use of benzodiazepines has been associated with accidents, fractures, cognitive impairment, and dependence.[2] Previous studies have evaluated the challenges with tapering and discontinuing benzodiazepines after chronic use.[11–16] However, there is little knowledge of the perspectives of patients about information that would be important to communicate before the consideration of a benzodiazepine. This is important given the lack of knowledge of how to identify individuals who may be at higher risk of using this medication long-term or at risk of experiencing harm from chronic use.

Before being prescribed and dispensed a medication, it is recommended that patients receive information from the prescriber and pharmacist about the risk and benefits of therapy.[17,18] There are varying degrees to which this information is communicated depending on the healthcare provider and patient–provider environment.[19] For instance, it is the responsibility of the pharmacist to provide counseling on all new medications to the patient at the point of dispensing.[17] However, some patients choose to decline counseling due to time constraints. In these instances, the patient may only be provided with written information, where it is now the patient's responsibility to read and understand the information provided. An investigator-led (C. L.) community engagement meeting of individuals with lived or living experience with benzodiazepine use was held in November 2018 also revealed that patients receive a lot of notification that they must discontinue their benzodiazepine only after it has been prescribed but there is a lack of communication about the rationale and plan for short-term use before receiving the prescription.[20]

Previous literature has found that communicating expectations, rationale for short-term use, and a clear tapering plan is important in engaging patients in shared decision-making about benzodiazepines.[21,22] Randomized controlled trials involving education and motivational tools about benzodiazepine risks, the benefits of deprescribing, and the tapering process have been shown to be effective in deprescribing benzodiazepines after chronic use.[23,24] Given the higher risk of certain medications, such as the long-term use of benzodiazepines, it is reasonable to expect patients should be aware and clearly understand the risks versus benefits of therapy not unlike an informed consent for participation in a research study. However, it is not understood what specific information would resonate with patients and no studies to date have examined the impact of education before benzodiazepine initiation. Eliciting preferences is complex and people may "construct" their preferences as they gain more information (theory of constructed preferences).[22,25,26] Values clarification methods have been reported to help patients identify preferences and value of options to improve decision-making.[25] These methods include considering detailed information about options and outcomes to promote understanding the consequences of an intervention, which may help provide insight into one's personal values and tradeoffs underlying the choice for one versus other treatment alternatives.[25]

In an effort to mitigate the risk of long-term benzodiazepine use, the College of Physicians and Surgeons of Manitoba issued a Standard of Practice specifically on the prescribing benzodiazepines and Z-drugs in November 2020.[18] According to this Standard of Practice, specific and realistic treatment goals, a discontinuation

Key points

- This study revealed that there may be gaps in knowledge about the expected duration of benzodiazepine use for anxiety or insomnia with only half of participants reporting that they received benzodiazepine counseling from a healthcare provider before starting their benzodiazepine.
- Participants placed high importance on receiving information related to withdrawal symptoms of benzodiazepines, risk of harm in combination with other sedating agents, risk of physical and psychological dependence, and risk of effects on memory and cognition before starting a benzodiazepine. A maximum of 10 counseling points on average was deemed acceptable within one counseling session to address the safety and efficacy of benzodiazepines before initiation.
- When provided with the opportunity to review the risk–benefit profiles of treatment options, participants were more likely to select cognitive behavioral therapy over benzodiazepines or no treatment.
- Policies that provide incentives to support the time to provide information on the risk and benefits of benzodiazepines could have an influence on helping patients and healthcare providers make an informed decision about treatment.

strategy, nondrug therapies, modest benefit of long-term benzodiazepine use, risk associated with treatment and impairment caused by benzodiazepines must be discussed with the patient before prescribing.[18] However, understanding how to communicate this information so that it is meaningful to the patient has not been previously described. To determine the effectiveness of communicating information about benzodiazepines to patients, we aimed to determine patient values and preferences regarding information that would be important to receive before being prescribed and dispensed a benzodiazepine. Findings from this study may help inform the future development of a decision-aid around taking a sedative-hypnotic/anxiolytic for sleep or anxiety.

2 | METHODS

2.1 | Study design

This study was a cross-sectional survey study.

2.2 | Participants

Canadians 18 years or older with self-reported insomnia or anxiety regardless of benzodiazepine use status were invited to participate in the study. Participants were excluded if they were unable to understand or read English. Participant recruitment was done through advertisement on social media, and through posters at primary care clinics and community pharmacies.

2.3 | Questionnaire development and data collection

An anonymous, self-administered, web-based survey was developed using REDCap® (Version 11.0, 2022). This survey was distributed nationally across Canada over a 6-month period (May–Oct 2022). The link to participate in the survey was accessible through social media, researcher website, and through email. The survey was also advertised through social media, primary care clinics, and community pharmacies. Participants were not required to complete all sections of the survey.

The survey collected demographic information, previous knowledge about benzodiazepines, participant rating of importance of statements about the risk and benefits of benzodiazepine use, and previous experiences with healthcare providers in regard to medication counseling. This questionnaire was developed in collaboration with healthcare providers and patients or caregivers with lived or living experience to ensure it captures counseling points that are relevant to the use of benzodiazepines.[20] Two members (both female and between the ages of 40 and 55 years old) of the Community Engagement Advisory Group pilot tested the survey and provide feedback on the readability and understanding of the survey questions and usability of the survey.

2.3.1 | Demographic information

Demographic information included age, sex, benzodiazepine use status (current, past, never use), education level, and history of substance use. In those with current or past experience with benzodiazepine use, duration of use, duration since last use, indication(s) of use, past tapering attempt experiences, and information received about benzodiazepine from a prescriber or pharmacist were also collected.

2.3.2 | Knowledge about benzodiazepines

Knowledge about the risk and benefit about benzodiazepines were collected by asking participants to select TRUE or FALSE from eight statements obtained from an EMPOWER brochure.[23]

2.3.3 | Likelihood of taking a benzodiazepine based on 24 benzodiazepine-related educational points

All participants rated the likelihood of taking a benzodiazepine based on receiving 24 statements about the risk or benefits of taking a benzodiazepine using a 5-point Likert-type scale. These statements were derived from the literature and a search of existing education materials used in research and clinical practice (Deprescribing Network,[27] EMPOWER study,[23] RxFiles[28]).

2.3.4 | Rating of importance of 24 benzodiazepine-related educational points

Participants rated the importance of each of the same 24 statements[23,27,28] above using a 10-point Likert-type scale.

2.3.5 | Rating of importance of information to receive

Participants rated the importance of the types of information that should be provided using a 10-point Likert-type scale. The types of information were broad categories rather than specific benzodiazepine-related counseling points and included, written information sheets about the benefits and risks of benzodiazepines, nondrug interventions for managing symptoms, being asked if they felt supported, information on how the medication can impact daily functioning or quality of life, symptoms that can be expected while tapering medication, information on how the medication can impact feeling rested during the day, sleep hygiene techniques, monitoring

scales, identifying common myths and facts about treating sleep, access to therapist or sleep clinic, risk and benefit between taking and not taking a medication for sleep or anxiety, support groups, journal or diary to monitor symptoms and side effects.

2.3.6 | Rating of factors related to medication use for sleep or anxiety

Participants rated the importance of factors when considering taking a medication for sleep or anxiety based on a 5-point Likert-type Scale. These factors included the ability of a medication to improve symptoms of sleep or anxiety, the desire to avoid dependence on medication, and the desire to avoid risk of falls or injury from medication.

2.3.7 | Treatment preferences

For the treatment preference section, participants were asked to select their view of the best and worst treatment options out of three treatment options (no treatment, Treatment A, Treatment B) based on seven to nine statements. Participants were blinded to the identification of treatment options A and B, with statements about treatment A corresponding to benzodiazepine and treatment B to cognitive behavioral therapy. Participants also described previous experiences with healthcare providers with respect to medication counseling, including the time they took to explain medication benefits and side effects, whether they felt the information provided was useful, and rated how important what their doctor or pharmacist thinks about the medication is to their decision about taking a medication or not.

2.4 | Data analysis

Quantitative data were described using descriptive statistics (frequency, proportion, mean) in REDCap® and Microsoft Excel® (version 16.71, 2019). The mean rating of the importance of information that should be provided before taking a benzodiazepine was calculated by summing the score reported by each participant who responded to a 10-point Likert-type scale in this question divided by the total number of participants who responded to the question. The mean was stratified by those with a current or past history of benzodiazepine use and those without a past history of benzodiazepine use. A post-hoc exploratory analysis was done using a two-tailed *t* test assuming unequal variances (Microsoft Excel® (version 16.71, 2019)] to determine whether the difference in mean rating of importance of statements was different between the two groups based on history of benzodiazepine use.[29] The mean rating of importance of the factors when considering taking a medication for sleep or anxiety disorder was calculated by the total score reported by participants out of the 5-point Likert-type scale divided by the total number of participants who responded to this question. The likelihood of taking a benzodiazepine based on the 24 benzodiazepine-related educational statements were treated as a binary variable (4 and 5 = likely to take a benzodiazepine; 1, 2, and 3 = not likely or unsure of taking a benzodiazepine). To account for a cell expected to have a value of 5 or less, a Fisher Exact Test was used to determine whether there was a statistically significant difference between those with and without a history of benzodiazepine use in the likelihood of taking a benzodiazepine based on the 24 benzodiazepine-related educational statements.[29]

A minimum sample size of 34 is required to demonstrate significance at a 0.05 significance level with 80% power for a medium effect size between those with and without a history of benzodiazepine use.[29] Missing data were excluded from the analysis.

This study has been approved by the University of Manitoba Human Research Ethics Board (ethics # HS20239 (H2016:400)).

3 | RESULTS

3.1 | Study population/demographics

Forty-one respondents attempted the survey with 37 participants submitting the survey. Of the 37 survey participants (mean age 30 years, 81.1% identified as female), 83.8% were from Manitoba and 97.3% completed high school (Table 1). The majority of respondents had reported receiving a past diagnosis or were negatively impacted by anxiety (83.8%) followed by insomnia (32.4%) and most respondents had never used a benzodiazepine in the past (73%). Among the participants with a current or past history of benzodiazepine use ($n = 10$), 80% were using it for anxiety, and half of the respondents used the benzodiazepine for greater than 8 weeks (Table 2). Only half of the respondents received counseling or information about benzodiazepines before initiation.

With respect to participant's knowledge about benzodiazepine use, most of the participants responded correctly to the statements (highest performing items), "If a benzodiazepine doesn't work for my anxiety, nothing will" ("False" (correct), 96.7%), "Discontinuing benzodiazepines should be done gradually" ("True" (correct), 93.3%), "Using a benzodiazepine is the best long-term strategy to treat anxiety" ("False" (correct), 86.7%), and "Benzodiazepines can be addictive" ("True" (correct), 83.3%) (Table 3). Only 50.0% responded correctly to the statement "If I quit my benzodiazepine suddenly, I will feel anxious" ("True" (correct)) (lowest performing item). In addition, 70.0% and 76.7% selected "False" (correct) to statements regarding the justification of long-term benzodiazepine use as long as immediate side effects are not experienced or functioning is maintained, respectively. Likewise, 76.7% correctly selected "False" (correct) to the statement "If I take my benzodiazepine exactly as prescribed, I won't have any side effects."

Among the 24 benzodiazepine-related statements, an increase in the likelihood of taking a benzodiazepine was reported in 52.4% of participants ($n = 21$) for the statement, "This medication will reduce

TABLE 1 Participant Demographic Information ($N = 37$).

Demographic	Value
Mean age (years)	30.0 years
Gender (*n*, %)	
Male	6 (16.2%)
Female	30 (81.1%)
Nonbinary	1 (2.7%)
Province (*n*, %)	
Manitoba	31 (83.8%)
Alberta	2 (5.4%)
Ontario	2 (5.4%)
British Columbia	1 (2.7%)
Newfoundland and Labrador	1 (2.7%)
Highest education completed (*n*, %)	
College/University	18 (48.6%)
Some college/University	14 (37.8%)
High school	4 (10.8%)
Some high school	1 (2.7%)
Past diagnosis or negatively impacted by: (*n*, %)	
Anxiety	31 (83.8%)
Insomnia	12 (32.4%)
N/A	2 (5.4%)
Past benzodiazepine use (*n*, %)	
Never used	27 (73.0%)
Previously used	8 (21.6%)
Currently taking	2 (5.4%)
Current/previous substance use (*n*, %)[a]	
Alcohol	29 (82.9%)
Cannabis	18 (51.4%)
Tobacco	11 (31.4%)
Nonprescription sleep aid	14 (40.0%)
Other substances	6 (17.1%)

[a]Only 35 respondents.

TABLE 2 History of benzodiazepine use among those with a history of benzodiazepine use ($N = 10$).[a]

Characteristic	Frequency (%)
Reason for taking a benzodiazepine	
Anxiety	8 (80.0%)
Sleep	2 (20.0%)
Pain	1 (10.0%)
Alcohol use disorder	1 (10.0%)
Withdrawal management	1 (10.0%)
Duration of benzodiazepine use	
<2 weeks	3 (30.0%)
2–8 weeks	2 (20.0%)
>8 weeks to ≤2 years	3 (30.0%)
>2 years	2 (20.0%)
Last stopped benzodiazepine	
<1 year ago	5 (50.0%)
1–5 years ago	4 (40.0%)
>5 years ago	1 (10.0%)
Difficulty stopping benzodiazepine (0=not to 10=very)	
0	5 (50.0%)
1	1 (10.0%)
5	1 (10.0%)
6	1 (10.0%)
7	1 (10.0%)
No response	1 (10.0%)
Received counseling/information about benzodiazepine before initiation	
Yes	5 (50.0%)
No	5 (50.0%)

[a]Only those who reported using a benzodiazepine in the past responded to these questions.

the time to fall asleep by 10 to 20 min", 47.6% for the statement, "This medication will extend the time you sleep by 30 min", and 42.9% for the statement, "This medication will reduce the number of awakenings by ~0.6" (Table 4A). Six participants (28.6%) reported an increase in the likelihood of taking a medication for each of the following statements, "This medication will only be used short-term because sleep improvement has only been shown with short-term use (1 day to 6 weeks)" and "This medication is only to be used short-term. One study in older adults found that safely stopping benzodiazepines after a period of use has no long-term adverse effects on sleeping or anxiety symptoms, improved memory and reaction time, increased alertness and improved quality of life". The remainder of the statements were related to the risks of benzodiazepines and had only two or fewer participants reporting an increase in the likelihood of taking a benzodiazepine. There were no significant differences in the likelihood of taking a benzodiazepine when comparing between those with and without a history of benzodiazepine use for each of the 24 benzodiazepine-related education statements.

While a higher proportion of participants reported an increase in the likelihood of taking a benzodiazepine based on the three statements related to the efficacy of a benzodiazepine, these statements were not rated as highly in terms of important information to know before starting a benzodiazepine (Table 4B). Patient counseling related to withdrawal symptoms of

TABLE 3 Knowledge about benzodiazepine use.

Statement	Proportion of correct responses
If a benzodiazepine does not work for my anxiety, nothing will (FALSE)	96.7% (29 out of 30)
Discontinuing benzodiazepines should be done gradually (TRUE)	93.3% (28 out of 30)
Using a benzodiazepine is the best long-term strategy to treat anxiety (FALSE)	86.7% (26 out of 30)
Benzodiazepines can be addictive (TRUE)	83.3% (25 out of 30)
If I take my benzodiazepine exactly as prescribed, I would not have any side effects (FALSE)	76.7% (23 out of 30)
Despite the potential risk for long-term cognitive impairment, the continued use of a benzodiazepine is justified as long as social functions (job/housekeeping/study) are maintained (FALSE)	76.7% (23 out of 30)
Knowing that there is limited evidence of efficacy beyond 4 weeks and the potential risk of harm increases with long-term use, continued use of a benzodiazepine is still justified as long as immediate adverse effects are not observed (FALSE)	70.0% (19 out of 30)
If I quit my benzodiazepine suddenly I will feel anxious (TRUE)	50.0% (15 out of 30)

benzodiazepines, risk of overdose or death in combination with other sedating agents or substances, risk of physical and psychological dependence, and risk of effects on memory and cognition were rated higher in the importance of receiving this information before taking a medication. When comparing the mean rating of importance between those with and without a history of benzodiazepine use, a significantly higher mean rating of importance was observed among those without a history of benzodiazepine use for the statement, "This medication will reduce to number of awakenings by ~0.6 (approximately reduce 1 awakening every other night" (mean 2.5 [standardized deviation, SD = 5.7] for benzodiazepine vs. 6.3 [SD = 8.0] for no benzodiazepine use, $p = 0.04$), and a significantly higher mean rating of importance among those with a history of benzodiazepine use was observed for the statement "There is a greater than 3-fold increase risk of death when used in combination with an opioid" (mean 9.8 [SD=0.3] for benzodiazepine vs. 7.7 [SD=4.8] for no benzodiazepine use, $p = 0.02$). There was also a trending but nonsignificant higher rating of importance among those without a history of benzodiazepine use for the statement "Treating 13 patients with a benzodiazepine for insomnia will improve sleep quality in 1 patient but 2 patients will likely experience adverse effects" (mean 3.3 [SD=6.3] for benzodiazepine vs. 6.8 [SD=3.7] for no benzodiazepine use, $p = 0.05$). The difference for all other statements were nonsignificant.

The maximum number of statements that participants felt should be verbally communicated during on medication counseling session with a pharmacist ranged from 3 to 24 (mean 11.4, median 10, mode 24). Having written information sheets about the benefits and risks of benzodiazepines, nondrug interventions for managing anxiety/insomnia and withdrawal symptoms, being asked about whether they felt supported, and information on how medication can impact daily functioning were rated high in importance with respect to information that should be provided before taking a benzodiazepine (Table 5). Information about how a medication improves symptoms of sleep/anxiety was rated 3.7 out of 5 on average in terms of important factors to consider when taking a medication for sleep or anxiety (Table 6).

Participants were also provided with information about the efficacy and risk of harm for three blinded treatment options, including no treatment (Supporting Information: Appendix I). Among the participants who completed this section of the survey ($n = 12$), all participants chose Treatment B (cognitive behavioral therapy) as the best treatment option. Three-quarters chose Treatment A (benzodiazepine) as the worst treatment option, with a quarter choosing No treatment as the worst treatment option. Of note, those with a history of benzodiazepine use were more likely to report "No Treatment" as the worst treatment option (three out of four respondents), with only 25% (1 of 4) reporting Treatment A as the worst treatment option. In contrast, 100% (8 of 8) of those without a history of benzodiazepine use chose Treatment A as the worst treatment option. How well a medication will work and side effects were rated higher in importance as factors when considering taking a medication compared with cost and how often the medication needs to be taken which were rated lower in importance (Figure 1).

Participants reported the internet, doctor, and pharmacist more frequently as their source of medication information (Figure 2).

4 | DISCUSSION

This survey study provided insight into the values and preferences of specific information and factors that would be helpful to receive before considering or initiating a benzodiazepine. This study found participants placed higher importance on receiving information about the potential harms of benzodiazepine use, including withdrawal symptoms, psychological dependence, risk of overdose or death in combination with other sedating drugs, and effects on memory and concentration. Participants also felt it was important to highlight the expected duration of treatment before initiating a benzodiazepine. A higher proportion of respondents (62%–86%) reported that this information would reduce their likelihood of taking a benzodiazepine

TABLE 4A Likelihood of taking a benzodiazepine based on the following statements ($N = 21$).

Statement	Likely or will take it	Not sure	Less likely or will not take it
This medication will reduce the time to fall asleep by 10–20 min	11 (52.4%)	5 (23.8%)	5 (23.8%)
This medication will extend the time you sleep by 30 min	10 (47.6%)	3 (14.3%)	8 (38.1%)
This medication will reduce the number of awakenings by ~0.6 (approximately reduce 1 awakening every other night)	9 (42.9%)	5 (23.8%)	3 (14.3%)
This medication will only be used short-term because sleep improvement has only been shown with short-term use (1 day to 6 weeks)	6 (28.6%)	6 (28.6%)	9 (42.9%)
Treating 13 patients with a benzodiazepine for insomnia will improve sleep quality in one patient but two patients will likely experience adverse effects	0 (0.0%)	4 (19.0%)	17 (81.0%)
This medication will only be used short-term because the efficacy diminishes in 4 weeks and the side effects persist. Long-term benzodiazepines can make you less alert, more irritable/depressed, and less able to concentrate	1 (4.8%)	5 (23.8%)	15 (71.4%)
After a few weeks of use, the brain gets used to the effects of benzodiazepines and it may not work as well as it did at first but can still cause side effects	1 (4.8%)	2 (9.5%)	18 (85.7%)
This medication will only be used short-term because the risk of physical dependence (tolerance/withdrawal symptoms) increases with use beyond 4–6 weeks	1 (4.8%)	7 (33.3%)	13 (61.9%)
Withdrawal symptoms can happen if you stop your benzodiazepine suddenly	1 (4.8%)	4 (19.0%)	16 (76.2%)
Withdrawal can cause anxiety and make it harder to sleep, and make you feel like your benzodiazepine is working by making these symptoms go away. But it is actually only making the withdrawal symptoms go away	1 (4.8%)	4 (19.0%)	16 (76.2%)
Psychological (cravings) dependence can occur at any point in treatment	1 (4.8%)	4 (19.0%)	16 (76.2%)
Some studies show that this medication will increase your risk of falls and fractures by three times	2 (9.5%)	4 (19.0%)	15 (71.4%)
Some studies show that this medication has been associated with a 59%–80% increase risk of traffic accidents	1 (4.8%)	1 (4.8%)	19 (90.5%)
Some studies show that this medication will increase your risk of memory and concentration problems by five times	1 (4.8%)	2 (9.5%)	18 (85.7%)
This medication may make it harder for you to manage your insomnia or anxiety through nondrug measures (sleep hygiene)	1 (4.8%)	2 (9.5%)	18 (85.7%)
Some studies show that this medication will be difficult to discontinue at 12 months using gradual dose reductions alone in 46.8% of people	1 (4.8%)	3 (14.3%)	17 (81.0%)
10% of people who start this medication will become chronic users	2 (9.5%)	1 (4.8%)	18 (85.7%)
30% will experience withdrawal symptoms after 8 weeks of use	1 (4.8%)	4 (19.0%)	16 (76.2%)
There is a greater than 3-fold increase risk of death when used in combination with an opioid	1 (4.8%)	5 (23.8%)	15 (71.4%)
Even people who take their benzodiazepine exactly as prescribed can get side effects	1 (4.8%)	7 (33.3%)	13 (61.9%)
Taking a benzodiazepine regularly can sometimes worsen your mood	1 (4.8%)	2 (9.5%)	18 (85.7%)
An overdose can occur when benzodiazepines are taken with other substances that affect the brain, such as alcohol or opioids, even if the benzodiazepine is taken at the prescribed dose	1 (4.8%)	3 (14.3%)	17 (81.0%)
Benzodiazepines can cause you to feel tired, forgetful, disconnected, and groggy ("brain fog")	2 (9.5%)	2 (9.5%)	17 (81.0%)
This medication is only to be used short-term. One study in older adults found that safely stopping benzodiazepines after a period of use has no long-term adverse effects on sleeping or anxiety symptoms, improved memory and reaction time, increased alertness, and improved quality of life	6 (28.6%)	5 (23.8%)	10 (47.6%)

TABLE 4B Mean (SD) rating of importance (0 = not, 10 = most) of receiving the following information before taking a benzodiazepine between those with and without a past history of benzodiazepine use (*N* = 15).

Statement	Past or current benzodiazepine use (N = 5)	No past benzodiazepine use (*N* = 10)	*p* value
This medication will reduce the time to fall asleep by 10–20 min	2.5 (9.7)	6.0 (7.5)	0.11
This medication will extend the time you sleep by 30 min	2.5 (9.7)	6.9 (3.2)	0.06
This medication will reduce the number of awakenings by ~0.6 (approximately reduce 1 awakening every other night)	2.5 (5.7)	6.3 (8.0)	0.04*
This medication will only be used short-term because sleep improvement has only been shown with short-term use (1 day to 6 weeks)	6.0 (8.7)	7.3 (2.8)	0.44
Treating 13 patients with a benzodiazepine for insomnia will improve sleep quality in 1 patient but 2 patients will likely experience adverse effects	3.3 (6.3)	6.8 (3.7)	0.05
This medication will only be used short-term because the efficacy diminishes in 4 weeks and the side effects persist. Long-term benzodiazepines can make you less alert, more irritable/depressed, and less able to concentrate	8.0 (2.0)	7.6 (4.3)	0.67
After a few weeks of use, the brain gets used to the effects of benzodiazepines and it may not work as well as it did at first but can still cause side effects	7.3 (1.6)	7.4 (1.3)	0.80
This medication will only be used short-term because the risk of physical dependence (tolerance/withdrawal symptoms) increases with use beyond 4.6 weeks	7.8 (4.3)	7.9 (5.4)	0.92
Withdrawal symptoms can happen if you stop your benzodiazepine suddenly	8.8 (0.9)	8.9 (2.9)	0.85
Withdrawal can cause anxiety and make it harder to sleep, and make you feel like your benzodiazepine is working by making these symptoms go away. But it is actually only making the withdrawal symptoms go away	8.0 (1.3)	8.3 (2.3)	0.67
Psychological (cravings) dependence can occur at any point in treatment	8.0 (1.3)	8.3 (2.3)	0.67
Some studies show that this medication will increase your risk of falls and fractures by 3 times	6.0 (6.0)	6.9 (2.4)	0.54
Some studies show that this medication has been associated with a 59% to 80% increase risk of traffic accidents	8.0 (2.7)	6.2 (10.9)	0.22
Some studies show that this medication will increase your risk of memory and concentration problems by 5 times	8.8 (2.3)	7.9 (2.4)	0.38
This medication may make it harder for you to manage your insomnia or anxiety through Nondrug measures (sleep hygiene)	6.5 (0.3)	7.4 (3.8)	0.21
Some studies show that this medication will be difficult to discontinue at 12 months using gradual dose reductions alone in 46.8% of people	5.5 (6.3)	7.1 (5.1)	0.32
10% of people who start this medication will become chronic users	5.0 (14.0)	7.3 (9.0)	0.32
30% will experience withdrawal symptoms after 8 weeks of use	6.5 (4.3)	7.4 (5.0)	0.49
There is a greater than threefold increase risk of death when used in combination with an opioid	9.8 (0.3)	7.7 (4.8)	0.02*
Even people who take their benzodiazepine exactly as prescribed can get side effects	8.0 (0.7)	7.3 (4.0)	0.41
Taking a benzodiazepine regularly can sometimes worsen your mood	7.0 (0.7)	7.0 (3.3)	1.0
An overdose can occur when benzodiazepines are taken with other substances that affect the brain, such as alcohol or opioids, even if the benzodiazepine is taken at the prescribed dose	9.5 (0.3)	8.2 (5.7)	0.16

TABLE 4B (Continued)

Statement	Past or current benzodiazepine use (N = 5)	No past benzodiazepine use (*N* = 10)	*p* value
Benzodiazepines can cause you to feel tired, forgetful, disconnected, and groggy ("brain fog")	7.3 (2.3)	6.8 (4.2)	0.65
This medication is only to be used short-term. One study in older adults found that safely stopping benzodiazepines after a period of use has no long-term adverse effects on sleeping or anxiety symptoms, improved memory and reaction time, increased alertness and improved quality of life	7.5 (4.3)	6.6 (9.0)	0.53

*indicates statistically significant p < 0.05.

TABLE 5 Mean rating of importance of information that should be provided before taking a benzodiazepine (0 = not important to 10 = most important) (*N* = 12).

Information	Mean rating
Written information sheets about the benefits and risks of benzodiazepines	7.8
Nondrug interventions for managing anxiety/insomnia and withdrawal symptoms	7.3
Being asked whether they feel supported	7.3
Information on how medication can impact daily functioning	7.3
Information on how medication can impact quality of life	7.0
Symptoms that will be experienced while tapering medication	6.8
Information on how medication can impact feeling rested during the day	6.6
Sleep hygiene techniques (no caffeine after 4 pm, no electronics before bed)	6.5
Scales to monitor symptoms of insomnia/anxiety and side effects of medication	6.5
Identifying common myths and facts about treating sleep (not everyone needs 8 h of sleep; it is normal to wake up in the middle of the night)	6.3
Access to therapist, sleep clinic	6.2
Risks and benefits presented as percent differences between taking medication compared to not taking medication	6.2
Support groups of individuals who have experienced or are experiencing tapering of medication	5.4
Journal/diary to monitor symptoms of insomnia/anxiety and side effects of medication	5.2

TABLE 6 Mean rating of importance of the following factors when considering taking a medication for sleep or anxiety disorder (0 = not important to 5 = very important) (*n* = 12).

Statement	Mean rating of importance
Improve your symptoms of sleep/anxiety	3.7
Avoid dependence on medication	3.6
Avoid risk of falls/injury from medication	3.2

if they received this information. These findings are consistent with findings from a randomized, double-blind controlled trial that found a significantly higher proportion of community-dwelling older adults discontinued their benzodiazepine when they received information about the risk of benzodiazepine use and a stepwise tapering protocol compared with those in the control group (usual care) (risk difference, 23% (95% confidence interval [CI]: 14%–32%)).[23] Our study findings highlight the value of addressing this information before considering or initiating benzodiazepine treatment among participants with a history of anxiety or insomnia. Of note, participants also felt that the maximum number of counseling points that should be addressed in one counseling section was 10 on average (median), but many reported 24 (mode). This indicates that participants felt the need to be well-informed before making a decision about initiating a benzodiazepine. While 24 counseling points is not realistic in a community pharmacy setting, the median of 10 points seems reasonable for a drug class with many known safety concerns. Of note, the survey only asked the number of statements preferred but not specifically the number of statements participants

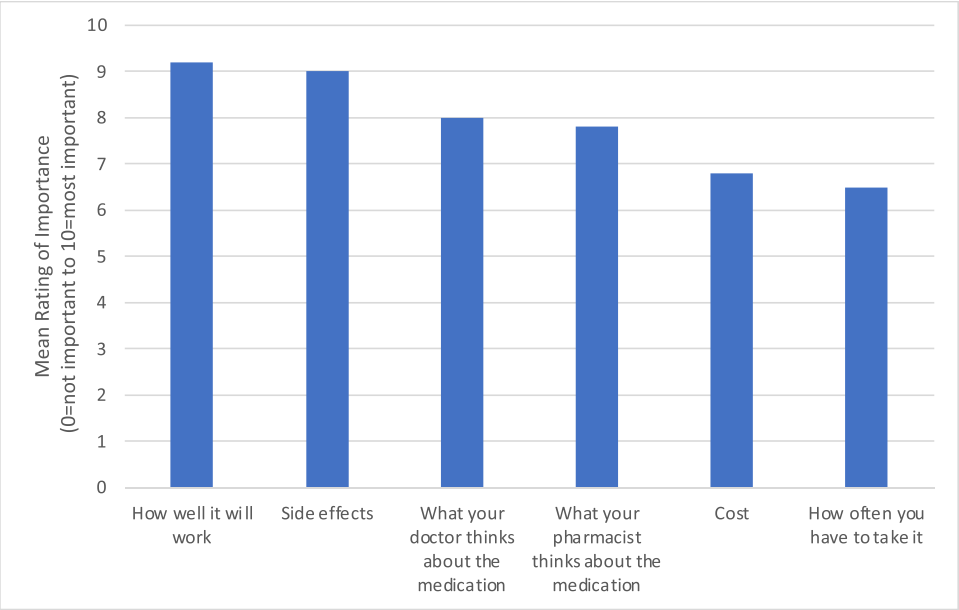

FIGURE 1 Mean rating of importance of the following factors when considering taking a medication (0 = not important to 10 = most important) (n = 10).

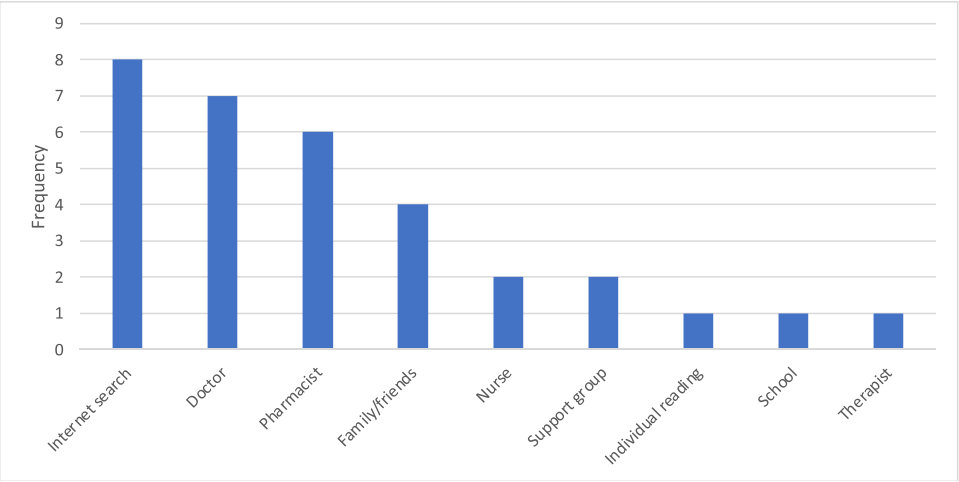

FIGURE 2 Where participants receive most of their information about a medication (participants can select more than one option) (n = 10).

would be willing to listen to during one counseling session. The desire to have this many counseling points addressed may not necessarily reflect the views of the population outside of this sample population.

Our study also observed that those without a history of benzodiazepine use were more likely to report a higher rating of importance for many of the specific benzodiazepine counseling points compared with those with a current or past history of benzodiazepine use. In particular, the statement regarding the potential for benzodiazepines to reduce the number of awakenings by 0.6 was found to have a significantly higher mean rating of importance, and the statement regarding the number needed to treat and harm was found to have a trending higher mean rating of importance among those without a history of benzodiazepine use compared with those with a history of benzodiazepine use. In contrast, a higher mean rating of importance was observed among those with a history of benzodiazepine compared with those without a history of benzodiazepine use for the statement regarding the risk of death when an opioid is combined with a benzodiazepine. While not statistically significant, those with a past history of benzodiazepines also had a higher mean rating of importance for the statement regarding the short-lived efficacy but long-term harms of benzodiazepines, compared with those without a history of benzodiazepine use. No significant difference was observed between these two groups for the remainder of benzodiazepine-related statements. However, only 15 participants responded to this section of the survey, and therefore, our sample may have been underpowered to detect differences between the two groups.

With respect to participant's knowledge about benzodiazepine use, most of the participants responded correctly to the statements. However, as many as a quarter of respondents felt there may be some justification in the long-term use of benzodiazepines as long as immediate harms are not experienced and functioning is maintained. Half of the respondents also did not know that suddenly stopping their benzodiazepine could make one feel anxious. These findings suggest improved education is warranted with respect to the expected duration of benzodiazepine use for insomnia and anxiety disorders and the expected symptoms that could be experienced while discontinuing these agents. Among those who received a benzodiazepine in the past, only half received counseling or information about benzodiazepines before initiating their benzodiazepine. Finlayson et al. also reported a high proportion (76.2%) of their respondents reporting they have not been informed that benzodiazepines were indicated for short-term use only and that discontinuation might be difficult.[30]

Interestingly, when participants were given information regarding three different treatments for insomnia (no treatment, benzodiazepines, cognitive behavioral therapy) and asked to select what they believed was the best and worst treatment, respondents unanimously picked cognitive behavioral therapy as the best treatment option. This highlights that given the opportunity to review the risks and benefits of treatment options, cognitive behavioral therapy was perceived to be favorable for anxiety and insomnia when compared with the risks and benefits that benzodiazepines pose.[31] These findings were in contrast to a point-of-purchase survey study in New South Wales by Sake et al.[32] who found 64% of participants were not interested in behavioral therapies. This patient population was older (mean age 54.3 years) and two-thirds used a benzodiazepine in the past year, which is in contrast to our younger population with most not having used benzodiazepines in the past. Of note, participants in this study did not receive any information on the risk versus benefit of behavioral therapies compared with medication, which could explain the lower preference for this option compared with our findings. The main reasons for behavioral therapy to be less favored in the study by Sake et al. were due to a lack of perceived confidence in the efficacy of behavioral therapies, dependence on their sleeping pills and a lack of time to try a new therapy.[32] This study also noted that if patients were counseled on the potential adverse effects of benzodiazepine use, they could be more willing to consider other therapeutic options. This further emphasizes the importance of addressing the risks versus benefits of different therapy options for anxiety or insomnia before initiating benzodiazepine treatment. In our study, we found that 75% of respondents chose benzodiazepines as the worst therapy option. However, when we further examined those with and without a history of benzodiazepine use in our study, three-quarters of those with a history of benzodiazepine use reported “No Treatment” as the worst treatment option in contrast to 100% of those without a history of benzodiazepine use selecting benzodiazepines as the worst treatment option. One possible reason for this difference is that those with a history of benzodiazepine use may have experienced a greater severity in symptoms of anxiety or insomnia leading to treatment with a benzodiazepine compared with those without a history of benzodiazepine use.

Lastly, participants were asked where they get the majority of their drug information from. The top three responses were the internet (25%), followed by their physician (22%), and then pharmacist (19%). Identifying reputable sources of information on the internet would be important given the frequency that patients may use the internet to find answers about their medication.

One of the strengths of our study was that it was the first to describe specific factors and information related to benzodiazepine risks and benefits that would be important to know before considering a benzodiazepine for anxiety or insomnia in an outpatient setting. Previous studies have focused on patients already receiving a benzodiazepine, which focuses on the factors influencing the deprescribing of a benzodiazepine rather than at the point of initiating a benzodiazepine.[23,30,32] Our findings should be interpreted based on understanding a few limitations of this study. First, the participant population was primarily comprised of younger individuals (mean age 30 years old) with a past history of anxiety (84%) and who have not used a benzodiazepine (73%) in the past. A high proportion of respondents were women (81%) and almost all respondents completed high school and the majority of participants resided in Manitoba (84%). The online survey format and advertisement through social media may have increased the risk of selection bias and influenced the demographic of our population. However, while the risks associated with benzodiazepine use may be higher among older adults, this study found that these risks were also relevant to the younger population with a history of anxiety or insomnia who have not used a benzodiazepine in the past. The lower rating of importance for efficacy statements regarding benzodiazepines could be explained by the fact that these statements were specific to addressing insomnia symptoms. As such, this may not be as relevant to the participants who completed the survey as only a third of participants indicated experiencing insomnia in the past. Moreover, despite rigorous methods applied to develop the survey, variations in individual interpretation cannot be entirely predicted or avoided. Not all survey questions required a response and as a result, our findings may have been influenced by nonresponse bias with a range of 27.0%–83.8% of the original sample responding to some of the survey questions. While this study was the first study to compare the mean rating of the importance of benzodiazepine-specific counseling points between those with and without a history of benzodiazepine use, this study may have been underpowered to detect a difference between the two groups. Question fatigue may have been responsible for the low response to questions toward the end of the survey given that some of the sections ask participant to respond to the same set of 24 statements in a different way. Given these limitations and the limited sample size of our study population, findings may not be generalizable to the wider population of patients with anxiety or insomnia who may be exposed to a benzodiazepine as a treatment option. However, this study revealed key information that can be used to inform the decision-making regarding the use of benzodiazepines for insomnia or anxiety treatment in community-based setting.

Policies that provide incentives to support the time to provide information on the risk and benefits of benzodiazepines could have an influence on helping patients and healthcare providers make an informed decision about treatment.

5 | CONCLUSIONS

This study highlighted key types of information considered important to address before initiating a benzodiazepine as identified by people with a history of anxiety or insomnia. Although a greater sample size from older adults and from those with a past history of benzodiazepine use would help improve our understanding of the needs of these groups, the information we have obtained has provided us with insight on the needs of patients to enhance patient education. This information has the potential to inform decision-aid tools and improve shared decision-making with respect to the use of benzodiazepines for treating insomnia or anxiety.

AUTHOR CONTRIBUTIONS

Karn Chahal: Formal analysis; investigation; writing—original draft. **Matthew Glass**: Formal analysis; investigation; writing—original draft. **Jamie Falk**: Methodology; writing—review & editing. **Alexander Singer**: Investigation; methodology; writing—review & editing. **Christine Leong**: Conceptualization; funding acquisition; methodology; supervision; writing—review & editing.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Aggregated survey data are available upon request. All authors have read and approved the final version of the manuscript. Christine Leong had full access to all of the data in this study and takes complete responsibility for the integrity of the data and the accuracy of the data analysis.

ETHICS STATEMENT

This study has been approved by the University of Manitoba Human Research Ethics Board.

TRANSPARENCY STATEMENT

The lead author Christine Leong affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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REFERENCES

1. Busto UE, Sproule BA, Knight K, Herrmann N. Use of prescription and nonprescription hypnotics in a Canadian elderly population. *Can J Clin Pharmacol*. 2001;8:213-221.
2. Voyer P, Préville M, Cohen D, Berbiche D, Béland SG. The prevalence of benzodiazepine dependence among community-dwelling older adult users in Quebec according to typical and atypical criteria. *Can J Aging*. 2010;29:205-213.
3. Aparasu RR, Mort JR, Brandt H. Psychotropic prescription use by community-dwelling elderly in the United States. *J Am Geriatr Soc*. 2003;51:671-677.
4. Canadian Centre on Substance Abuse. Prescription sedatives (Canadian drug summary) 2015. p. 1-6. Accessed November 3, 2020. http://www.ccsa.ca/Resource: Library/CCSA-Canadian-Drug-Summary-Prescription-Sedatives-2015-en.pdf
5. CADTH. Discontinuation strategies for patients with long-term benzodiazepine use: a review of clinical evidence and guidelines. Vol. 1, Rapid Response Report: Summary with Critical Appraisal. 2015. p. 1-28. Accessed November 3, 2020. http://www-ncbi-nlm-nih-gov.uml.idm.oclc.org/pubmedhealth/PMH0078914/pdf/PubMedHealth_PMH0078914.pdf
6. Canadian Centre on Substance Abuse. Effective interventions to manage symptoms of benzodiazepine withdrawal in seniors. 2014. p. 1-9. Accessed November 3, 2020. http://www.ccsa.ca/ResourceLibrary/CCSA-Benzodiazepine-Withdrawal-Seniors-Rapid-Review-2014-en.pdf
7. Hogan DB, Maxwell CJ, Fung TS, Ebly EM, Canadian Study of Health and Aging. Prevalence and potential consequences of benzodiazepine use in senior citizens: results from the Canadian study of health and aging. *Can J Clin Pharmacol*. 2003;10:72-77.
8. Olfson M, King M, Schoenbaum M. Benzodiazepine use in the United States. *JAMA Psychiatry*. 2015;72:136-142.
9. Esposito E, Barbui C, Patten SB. Patterns of benzodiazepine use in a Canadian population sample. *Epidemiol Psichiatr Soc*. 2009;18:248-254.
10. Alessi-Severini S, Bolton JM, Enns MW, et al. Sustained use of benzodiazepines and escalation to high doses in a Canadian population. *Psychiatr Serv*. 2016;67:1012-1018.
11. Aguiluz J, Alvarez M, Pimentel E, et al. How to face a patient with benzodiazepine dependence in primary health care? Strategies for withdrawal. *Medwave*. 2018;18(1):e7159. http://ovidsp.ovid.com/ovidweb.cgi?T=JS%26PAGE=reference%26D=prem%26NEWS=N%26AN=29385122
12. Lader M, Tylee A, Donoghue J. Withdrawing benzodiazepines in primary care. *CNS Drugs*. 2009;23(1):19-34.
13. Paquin AM, Zimmerman K, Rudolph JL. Risk versus risk: a review of benzodiazepine reduction in older adults. *Expert Opin Drug Saf*. 2014;13(7):919-934.
14. Sanchez-craig M, Cappell H, Busto U, KAY G. Cognitive-behavioural treatment for benzodiazepine dependence: a comparison of gradual

versus abrupt cessation of drug intake. *Addiction*. 1987;82(12): 1317-1327.
15. Peperkamp P, Goodman LI. The discontinuation of lorazepam and diazepam following sub-chronic therapy in anxious outpatients. *J Drug Dev*. 1993;6(4):171-182.
16. Moroz G, Rosenbaum JF. Efficacy, safety, and gradual discontinuation of clonazepam in panic disorder: a placebo-controlled, multicenter study using optimized dosages. *J Clin Psychiatry*. 1999;60(9):604-612.
17. Government of Manitoba. *The Pharmaceutical Act*. 2023. Accessed September 23, 2023. https://web2.gov.mb.ca/laws/statutes/ccsm/p060.php
18. The College of Physicians and Surgeons of Manitoba. Standard of Practice: prescribing benzodiazepines and Z-drugs (including zopiclone and other drugs). Effective date: November 1, 2020. 2020. Accessed November 3, 2020. https://cpsm.mb.ca/laws-and-policies/standards-of-practice-of-medicine
19. Ahmed H, Naik G, Willoughby H, Edwards AGK. Communicating risk. *BMJ*. 2012;344:e3996.
20. Leong C. Community engagement meeting, College of Pharmacy, University of Manitoba, November 14, 2018. 2018.
21. Reeve E, To J, Hendrix I, Shakib S, Roberts MS, Wiese MD. Patient barriers to and enablers of deprescribing: a systematic review. *Drugs Aging*. 2013;30(10):793-807.
22. Jansen J, Naganathan V, Carter SM, et al. Too much medicine in older people? Deprescribing through shared decision making. *BMJ*. 2016;353:i2893.
23. Tannenbaum C, Martin P, Tamblyn R, Benedetti A, Ahmed S. Reduction of inappropriate benzodiazepine prescriptions among older adults through direct patient education: the EMPOWER cluster randomized trial. *JAMA Intern Med*. 2014;174(6):890-898.
24. Vicens C, Bejarano F, Sempere E, et al. Comparative efficacy of two interventions to discontinue long-term benzodiazepine use: cluster randomised controlled trial in primary care. *Br J Psychiatry*. 2014; 204(6):471-479.
25. Fagerlin A, Pignone M, Abhyankar P, et al. Clarifying values: an updated review. *BMC Med Inform Decis Mak*. 2013;13(suppl 2):S8.
26. Hibbard JH, Peters E. Supporting informed consumer health care decisions: data presentation approaches that facilitate the use of information in choice. *Annu Rev Public Health*. 2003;24:413-433.
27. Deprescribing Network. *Patient handouts*. 2020. Accessed November 20, 2020. https://www.deprescribingnetwork.ca/patient-handouts
28. RxFiles. Questions about anxiety and the answers that may surprise you. Accessed November 20, 2020. https://www.rxfiles.ca/RxFiles/modules/miscellaneous/search.aspx?for=anxiety+
29. Hulley SB, Cummings SR, Browner WS, Grady D, Newman TB. *Designing clinical research: an epidemiologic approach*. 4th ed. Lippincott Williams & Wilkins; 2013:79.
30. Finlayson AJR, Macoubrie J, Huff C, et al. Experiences with benzodiazepine use, tapering, and discontinuation: an Internet survey. *Ther Adv Psychopharmacol*. 2022;12:20451253221082386.
31. Chapoutot M, Peter-Derex L, Bastuji H, et al. Cognitive behavioral therapy and acceptance and commitment therapy for the discontinuation of long-term benzodiazepine use in insomnia and anxiety disorders. *Int J Environ Res Public Health*. 2021; 18(19): 10222. doi:10.3390/ijerph181910222
32. Sake F-T-N, Wong K, Bartlett DJ, Saini B. Benzodiazepine usage and patient preference for alternative therapies: a descriptive study. *Health Sci Rep*. 2019;2(5):e116.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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