Barriers and Facilitators to the Deprescribing of Nonbenzodiazepine Sedative Medications Among Older Adults

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Perm J 2018;22:17-157

E-pub: 04/20/2018

https://doi.org/10.7812/TPP/17-157

ABSTRACT

Introduction: Nonbenzodiazepine sedative-hypnotic medications, or "Z-drugs," are commonly used to treat insomnia among older adults (≥ 65 years), despite a lack of evidence of long-term effectiveness and evidence linking long-term use with poor outcomes.

Objective: To understand patient and clinician barriers and facilitators to deprescribing, or discontinuation, of Z-drugs.

Methods: We conducted a qualitative interview study among older adults who received a deprescribing intervention and among their clinicians at Kaiser Permanente Northwest. Semistructured interviews explored perceived barriers and facilitators to successful deprescribing of Z-drugs. Interviews were audiorecorded with participant permission. Content was analyzed using QSR NVivo 10 software.

Results: From the perspectives of patients, the greatest challenges to deprescribing are factors related to their insomnia, including the need for effective treatment of their insomnia; health care system factors, including a desire for personalized approaches to care; and their own positive personal experiences with sedative medication use. From the clinician perspective, a lack of institutional structures and resources to support deprescribing, the attitudes and practices of previous clinicians, and patient-related factors such as dependence and a lack of alternatives to treat insomnia were the most important barriers to deprescribing.

Conclusions: Health care systems must provide individualized care that supports patient goals for restful sleep and quality of life while also providing evidence-based care that takes patient safety into account. To accomplish this, systems must support patients and clinicians and provide a multidisciplinary approach that addresses insomnia treatment, provides patient education about sedative medication use, and supports the discontinuation process.

INTRODUCTION

Nonbenzodiazepine sedative-hypnotic medications, or "Z-drugs," are routinely prescribed to adults age 65 years and older for the treatment of insomnia.[1-4] However, there is a lack of evidence that these medications—which include eszopiclone, zaleplon, and zolpidem—improve sleep over the long term, and research findings link long-term use among older adults with falls, daytime sedation, cognitive impairment, decreased quality of life, dependence and abuse, and hospitalization.[5-8] In recognition of these risks, the American Geriatrics Society discourages the use of nonbenzodiazepine sedative-hypnotics among older adults.[5] Despite this, older adults continue to receive Z-drugs for months, years, or even decades.

Deprescribing is a research area focused on the process of discontinuation of drugs when existing or potential harms outweigh existing or potential benefits for an individual.[9] Although the considerable evidence of the adverse effects of Z-drugs among older patients supports the need for deprescribing, few studies have studied interventions to stop their use.[10] One approach with great potential is direct-to-patient education that provides information about the risks of medication use and empowers patients to start discussions with their clinician about deprescribing.[11-13] In parallel with the implementation of a direct-to-patient educational intervention, we conducted a qualitative study to examine older adults' and primary care clinicians' knowledge and attitudes regarding nonbenzodiazepine medication use and to identify barriers and facilitators to deprescribing.

METHODS

Study Setting and Design

We conducted our qualitative interview study from February 2017 to April 2017 among older adults who had received an intervention to encourage deprescribing of their Z-drug and among their primary care clinicians at Kaiser Permanente Northwest (KPNW), an integrated health care delivery system in Oregon and Washington. Patients were eligible for the intervention if they were age 64 years or older and received multiple dispensings of Z-drugs in the previous year. Z-drugs include eszopiclone, zaleplon, and zolpidem. Patients were randomly assigned to either usual care (an intervention that provided mailed educational materials) or an intervention that included both mailed educational materials and pharmacist consultation. The mailed educational materials described the risks and benefits related to Z-drug use, provided information about nonpharmacologic alternatives to these therapies (eg, sleep hygiene techniques), outlined how a patient might taper the medication, and provided guidance for how a patient can pursue discontinuation of this medication. Collectively, the educational mailing sought to engage patients in shared decision making and to encourage patients to initiate a conversation with a pharmacist or their clinician around discontinuation of their nonbenzodiazepine medication. The pharmacist consultation

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reinforced the messaging of the mailed educational materials and provided additional information about the risks related to nonbenzodiazepine use and suggested approaches to taper that use. (Intervention educational materials are available on request.)

Participant Identification and Recruitment

We identified potential interview participants from a list of intervention recipients. We mailed invitations to randomly selected patients and followed these with phone calls. We identified primary care clinicians who had prescribed Z-drugs for patients who received an intervention and invited them to participate via an initial recruitment e-mail and one follow-up e-mail if necessary. We enrolled patients for a 45-minute to 60-minute telephone interview and clinicians for a 25-minute to 35-minute telephone interview. Patients received a $20 gift card for participation; clinicians were not compensated.

Data Collection and Analysis

We created a patient interview guide exploring past and current use of nonbenzodiazepines, prior education about sedative use, educational needs, and reactions to the intervention materials (Sidebar: Patient Interview Guide, available at: www.thepermanentejournal.org/files/2018/17-157-Sidebars.pdf). We created a primary care clinician interview guide exploring approaches to providing care to older adults with insomnia, sedative medication prescribing practices, reaction to the intervention materials, and factors that hinder or support deprescribing of sedatives (Sidebar: Primary Care Physician Interview Guide, available at: www.thepermanentejournal.org/files/2018/17-157-Sidebars.pdf). Interviews were conducted by a single interviewer (see Sidebar: Interviewer Adherence with COREQ Standards available at www.thepermanentejournal.org/files/2018/17-157-Sidebars.pdf for interviewer adherence with Consolidated Criteria for Reporting Qualitative Research [COREQ] standards) and were recorded with participant permission. This study was approved by the KPNW institutional review board.

We used NVivo Version 10 software (QSR International, Doncaster, Victoria, Australia) for data analysis. We conducted a conventional content analysis for patient and clinician interviews separately.[14] We coded all interview responses on the basis of the interview guide content and, after coding all interviews, further examined and classified the data for each code into overarching categories.

RESULTS

We recruited 25 patients. We were unable to reach 10 of those patients, 5 refused participation, and 10 consented to an interview (1 man, 9 women). One patient initiated a taper of the Z-drug dosage and 1 patient stopped the medication after receiving the educational materials. Two patients considered but did not initiate tapering after their conversation with the intervention pharmacist. Six patients did not indicate their intent after the intervention.

We sent 36 e-mails and enrolled 6 primary care clinicians (3 women, 3 men). One additional clinician was referred for participation by another clinician; none of her patients received the intervention.

Patient Perspective

We assigned patient responses to 1 of 9 initial codes that included approaches to insomnia, beliefs and attitudes about deprescribing, and barriers and facilitators to deprescribing. From these coded data, we identified 3 overarching categories that patients considered crucial in understanding their sedative medication use and the barriers and facilitators of discontinuation of that use: 1) factors related to insomnia and its treatment, 2) health care delivery system-related factors, and 3) patient experiences with sedative medications and potential concerns. See Table 1 for patient comments.

Table 1. Patient perspectives on barriers to and facilitators for deprescribing of nonbenzodiazepines

Overarching theme	Quotations
Insomnia-related factors	"I'd rather not take it; I'd rather not take any medications. But you know, I'm approaching [age] 68, and I have a variety of medical conditions where it makes sense to take medications."
	"Who came up with information I received in the mail, you know, take a half, don't take one. … Because if this truly works, then give me proof. … I'm skeptical because there hasn't really been a study done on people who have taken [zolpidem] for a long time that I'm aware of. No information has come to my door. I am open-minded and if somebody can prove to me that it [tapering] really works, but if it doesn't work for me I want to be able to go back on [zolpidem] so I can sleep."
Structural and health care delivery system-related factors	"Dr X is extremely helpful in the sense that he says he trusts me to know my body, and I can take them as long as I feel the need for it."
	"I have ordered it, and the doctors have prescribed it. I don't think there have been many conversations with the pharmacist about side effects. … It has never been proactively communicated before; nobody has ever said you have to stop taking this."
Patient experiences and concerns	"To be honest with you, I never had a lot of the symptoms that they are talking about [in the brochure]. I felt better in the morning, not groggy. I never fell asleep during the day, I did when I couldn't sleep. I never fell, I am 67, obviously in my mind, I think we have all of those. I felt like I never had any of these effects that they are talking about. … The [symptom] I was looking at that would not want me to take it more than anything is the involuntary urine loss. … I was always really careful about it; I never wanted to become dependent on it. I was very mindful. If I had taken it 3 times and I couldn't sleep on the weekend, I didn't take it."
	"I haven't had any falls. The only time I have had a fall from medication was when I tried to take trazodone and that made me so dizzy that I felt frightened to take it. … I never felt that way with [zolpidem]. As far as I have felt confused or fuzzy, it is very hard for me to tease out whether I feel confused or fuzzy from medication or from stress or from my age or whatever is on my mind. Sometimes I take [zolpidem] and I wake up and I feel well rested, and it is a wonderful feeling, and other times I wake up feeling groggy or feeling like I'm in a cloud. But that's also true when I don't take it or when I haven't taken it for a while."

Factors Related to Insomnia and Its Treatment

Patients expressed that insomnia is a long-term diagnosis that takes many different forms but requires ongoing intervention. Patients emphasized that restful sleep is a key component for a high quality of life and their sedative medication has helped to achieve that. Patients felt that potentially initiating a tapering process presented them with the dilemma of finding an alternative safe treatment to maintain that quality of life. Related to this, a crucial obstacle was the perceived lack of alternatives and the fear that they may experience a compromised quality of life when sleepless nights return. One patient noted:

I had extreme insomnia, and even cutting down from 10 mg to 5 mg has definitely made my sleep much harder and it takes much longer for me to go to sleep. … I'm worried that if I cut down even slowly that I'll have a lot of trouble. I'm 77 years old, and my quality of life will change for the worse if the insomnia comes back.

Patients did, however, believe that education about possible, safer alternatives could serve as an important motivator for people to initiate tapering. As one patient noted:

I was very willing to try a different sleep aid for this lifestyle I keep, and so I am open to better understand what other options I have to keep the same regimen I have.

One patient who had successfully stopped taking her sedative medication was willing to experience insomnia again because her lifestyle had changed, and she did not need as much restful sleep anymore. This patient noted:

The main reason I took it was because I was working. … [A]fter I retired, if I only get one hour of sleep, the next day, I can handle it. I have not felt the need. Yes, sometimes I have insomnia, but it is not critical, as I don't have to go to work.

Factors Related to the Health Care Delivery System

Patients expressed their wish to be treated as an individual, rather than merely a member of a particular age group. One patient noted:

Maybe it isn't a great idea for people over 65 to be taking any kind of sleep medication, but maybe it isn't such a bad idea when you balance it against fatigue. … The notion that everybody should or nobody should is maybe not the most individualized approach to medicine or health.

Patients expressed frustration with cookie-cutter approaches to deprescribing nonbenzodiazepines. Many patients did not identify with the patient stories, generalized descriptions of insomnia, or alternative strategies to treat insomnia (eg, sleep hygiene) included in the educational materials. As noted by one patient, "The brochure didn't target me at all. There are many different kinds of insomnia. … I mean, people who don't really have insomnia think there is only one kind."

Patients pointed out that many primary care clinicians didn't emphasize deprescribing during regular encounters. In one patient's experience:

My provider hasn't really brought it up [tapering]. A few years ago, I brought it up, and she referred me to an online program. Then, I was referred to a sleep specialist who put me on a different medication.

Patient Experiences with Sedative Medications and Potential Concerns

Patients' overall experiences of taking their nonbenzodiazepine were very positive, and very few reported any side effects. One patient said, "[Zolpidem] works, and that's what I want to stay on. There [are] no side effects."

Considering their overall high satisfaction with their sedative medication, patients expressed mixed reactions about how side effects would affect their continued use of their nonbenzodiazepine.

Table 2. Primary care clinician perspectives on barriers to and facilitators for deprescribing of nonbenzodiazepines

Overarching theme	Quotations
Institutional structures	"If I decide to taper … anybody [off] any medication, I find the follow-up very complicated and cumbersome and a pain in the butt for the [practitioner] because we are the ones that need to be calling the patient every week or couple of weeks. It is time-consuming. I have managed to wean 2 patients off medications, but I don't want to do it anymore because of the follow-up that it requires. If I could assure that somebody else would do the follow-up—who asks, how are you doing? How are you dealing with this dose? Do you need to get back to the previous dose?—That would make it easier. … If we have full schedules and only 20 minutes and people have 8 or 9 different problems, and sedative medications is one of them, it is usually not my top priority. I know that I'm creating a nightmare with follow-up."
	"We do not have enough time for us to follow[-up] these people. We don't even have time to see our regular patients, and, for older patients, a barrier is that we don't have much support."
Patient characteristics and attitudes	"For the people who have been using [zolpidem] and who are in this elderly age group, they tried everything else. If they wake up in the morning and they feel groggy and can't focus, they don't want to take that medication. … But people who do tolerate it have no complaints at all and feel well and don't have any issues they are concerned about. They feel great, they feel refreshed, they are up in the morning and do whatever it is they do. Once they find the medication that works, they are very happy and very irritated by any attempts not to prescribe this medication any longer."
	"It can be a tough sell to get patients off of these meds. They are used to them, they have a pattern, they know how they feel when they are using them and they are afraid of quitting them and not being able to sleep or some other adverse effects. So I try to frame it for them again in terms of safety, and you know elderly people, their sleep patterns are very different than young people. … Having these kind of meds on board can be quite dangerous. I try to frame it for them in this way to help them understand that I want them to be safe."
Clinician characteristics and attitudes	"The problem with this medication is that this medication was given like candy. The older doctors gave it like candy. These patients have already been on these medications when we were probably in junior high. Right now we just step into their lives, we try to take them off and imagine they have been on it for a long time, it was the norm before. … I strongly feel that I inherited a problem that was created in the past."

Some patients reported that side effects would play a crucial role in their desire to discontinue use of the medication. As one patient noted:

> *Perhaps when I retire, and it is not so important that I go back to sleep, maybe I would consider it then. But right now it seems to serve a purpose. … If I had any inclinations to experience side effects, then I would stop it.*

However, others believed that experiencing side effects would not be sufficient cause for them to taper the use of these medications. In general, patients felt that they were critical consumers who weighed the pros and cons of continuing to take nonbenzodiazepines.

Primary Care Clinician Perspective

We allocated clinician interview responses to 1 of 12 codes, including prescribing practices, insomnia treatment, management of sedative medication use, and barriers and facilitators to deprescribing. We then classified feedback into 3 overarching categories that summarize the challenges primary care clinicians experience in managing and deprescribing sedative medication use among older adults: 1) institutional structures, 2) patient characteristics and attitudes, and 3) clinician characteristics and attitudes. See Table 2 for clinician comments.

Institutional Structures

Primary care clinicians perceived a lack of institutional support and resources as a crucial obstacle to deprescribing. They believed that tapering dosages and deprescribing medications is a time-intensive process, both in terms of initiating the tapering process and overseeing it:

> *The only thing I really strongly recommend is that we have good support. We can start the taper off, but if I could send the patient information to a certain pool and tell them that they have to monitor a patient for four weeks to see how she is doing.*

Clinicians also noted the need for additional support to initiate and oversee that process. One clinician noted:

> *We do not have enough time for us to follow [-up with] these people. We don't even have time to see our regular patients and, for older patients, a barrier is that we don't have much support.*

Clinicians also pointed out a lack of clinical staff and infrastructure to address insomnia-related concerns, with one primary care clinician noting:

> *[W]e need more resources to help people with insomnia. … We don't really have a clinic where we can send patients. If we had additional resources to help out with insomnia, as there are for pain, that would be great.*

Primary care clinicians suggested a need for the health care system to prioritize deprescribing, present tapering as an activity prioritized by the system rather than only a single clinician, and to create incentives that would encourage the clinician to deprescribe. One primary care clinician noted that initiating the tapering process is counter to values—such as patient satisfaction—that the health care organization currently emphasizes:

> *There is a lot of emphasis on patient satisfaction, which is a double-edged sword. Sometimes we don't practice good medicine because good medicine often means not to make our patients happy. Patients want immediate gratification. It is threatening for us. I'm judged by how fast a patient gets to see me. Nobody cares how many patients I have tapered off medication.*

Finally, primary care clinicians also commented that nonbenzodiazepines pose a unique challenge because they are not considered as high a deprescribing priority as are medications such as opioids and benzodiazepines.

Characteristics and Attitudes of Patients

Clinicians emphasized that patients have come to physically, emotionally, and psychologically depend on nonbenzodiazepines; thus, they are very reluctant to give them up. One primary care clinician noted, "The big challenge is that many patients have been on this [regimen] for a long time. … The psychological and physiological dependence is difficult."

Primary care clinicians felt that there are few effective alternatives they can offer to patients if they were to pursue deprescribing of nonbenzodiazepines. One clinician noted,

> *There are not really many good alternative medications to help with sleep or anxiety. Even if I taper one medication, they usually want something else. They say, 'Well, I can't sleep without it, so what are you going to give me instead?' Often they are not receptive to behavioral techniques to try and help.*

Primary care clinicians find it challenging to convincingly communicate concerns about potential side effects and patient safety, because patients often started taking nonbenzodiazepines after negative experiences with other medications. Few long-term users experience side effects and don't identify with the safety concerns. Clinicians also mentioned that deprescribing runs counter to a culture in health care that makes pills readily available rather than making other treatments available. One noted:

> *The majority just want a pill; it's the American way. We don't really want to work for it. It is going to take more than a pamphlet. … We need to teach people about these medications.*

Clinician Characteristics and Attitudes

Many primary care clinicians perceived that deprescribing has only recently become a priority and that generous prescribing in the past has now created an undue burden on current clinicians as they try to proactively address nonbenzodiazepine use among elderly patients. One clinician noted:

> *The problem is, quite frankly, that we don't start [prescribing] the medication. Most people come in on them. They were given them by their psychiatrist ten years ago and were continued on these medicines, and we are just left with a panel that has a high prevalence [of use] through nothing that I did. Now I'm supposed to be [the] one to stop it.*

Thus, deprescribing requires clinicians to be proactive and to offer a reasonable alternative:

> *I try to be proactive with the 60 to 64[-year-old] group. I don't like to just tell them that they can't take it anymore, but I tell them we need to find something safer for you to use, because this isn't safe for you. I try to frame it for patients in this way because the safety of the patient is paramount, and I'm not just taking their meds away.*

Some primary care clinicians are defeated by this burden and simply choose to maintain existing prescriptions, because the challenge of deprescribing seems too daunting. This shift in emphasis for clinicians causes frustration and inactivity, for example:

For patients who have continued prescriptions, most of which have never been started by me, I typically just continue those. Here is the thing: We have infinite resources to prescribe pills. We have very finite and limited resources to actually educate and inform patients about the things they need to know to wean themselves off these medicines. The limiting factor is not only what patients are willing to do but also the resources that we can provide them to help out.

DISCUSSION

Our study provides insights into challenges faced by older adults and primary care clinicians when confronted with deprescribing Z-drugs. We identified insomnia-specific, institutional, and patient and clinician factors that, if addressed, could lead to reductions in potentially inappropriate use of nonbenzodiazepine medications.

Primary care clinicians emphasized that the time required for appropriate discussion with the patient and for ongoing monitoring limits their ability to deprescribe medications. To address this, clinicians suggested a multidisciplinary approach, including support from health care professionals that can help treat patients' insomnia, counsel patients who are taking nonbenzodiazepines, and explain the process of tapering medication use. They also emphasized the need for the health care system to prioritize deprescribing, which included creating a culture that supports primary care clinicians in their efforts to deprescribe and recognizing or incentivizing those efforts. Primary care clinicians also expressed that the current need to deprescribe is related to the prescribing practices of past health care providers and a historical lack of emphasis on conservative use of nonbenzodiazepines. Finally, primary care clinicians believe that they have few alternatives to offer patients who have often used nonbenzodiazepines for a long time; thus, they remain likely to continue to prescribe nonbenzodiazepines. Collectively, these perceptions suggest the need for proactive education that encourages more conservative prescribing of nonbenzodiazepines early on and greater health care system support for deprescribing.

Patients also cited health care system barriers to deprescribing; however, they primarily emphasized the need for support systems that address insomnia. When deprescribing was the emphasis, patients pointed out a lack of clinician prioritization of deprescribing. They also felt that evidence about the safety of Z-drug use among older adults did not apply to them. A shift in emphasis from deprescribing to harm reduction, as one patient suggested, may provide a compromise between evidence-based medicine and patient safety quality measures while also providing care that addresses patient-centered goals such as restful sleep and quality of life.

Primary care clinicians emphasized duration of sedative medication use and difficulties associated with physical and emotional dependency as barriers to deprescribing. In contrast, patients did not note concerns about dependency. Rather, patients reported that they had used their nonbenzodiazepine for extended periods without experiencing side effects. Some patients said they would not be interested in taking the medication if they were experiencing side effects; however, many patients commented that the threat of side effects did not outweigh the positive aspects of nonbenzodiazepine use or the potential for decreases in restful sleep or quality of life if they should discontinue use. Patients, but not clinicians, expressed concern about the need to balance deprescribing with long-term treatment of their insomnia. In our interviews, patients emphasized that their quality of life is at stake. In response, health care systems will need plans for medication discontinuation that educate the patient about alternative approaches to insomnia and ways to cope with withdrawal reactions and the transition from Z-drug use to these alternative insomnia treatments.

Patients also expressed their frustration with a perceived lack of safe alternatives. Although nonpharmacologic, behavioral treatments exist, clinicians also perceived that they had few alternatives to offer. In practice, a solution may be a focus on improving clinician education about safe and effective alternatives and institutional preparedness to provide nonpharmacologic treatment to patients with insomnia, while also communicating the lack of evidence of benefit and increasing evidence of harm associated with nonbenzodiazepine use among older adults. Collectively, this shift in focus would address patient needs, decrease dependence on medications, and lessen the burden on primary care clinicians.

A strength of our study, in contrast to other studies that focused on other medications or specific populations,[15-17] is that we conducted it among a general population of older adults and their clinicians, within the context of a deprescribing intervention of Z-drugs. Our results reveal perspectives relevant to the development of interventions that specifically address Z-drug use and insomnia.

There are also limitations to our study. First, our small sample size may limit the generalizability of our results. Generalizability may also be affected if our recruitment resulted in greater participation among patients who have specific concerns about nonbenzodiazepine use or clinicians who struggle more with medication use among older adults. In addition, most of our patient participants were female; thus, generalizability may be affected if there are sex-specific differences in perspectives on nonbenzodiazepine use and deprescribing. However, given the consistency of our feedback, we believe that we ascertained common perspectives that consider patient concerns and clinician and health care system barriers. Our consistent use of an interview guide and the use of a formal content analysis help lessen these limitations.[18] Second, our study was conducted in an integrated health care system, so institutional factors may differ from other settings.

CONCLUSION

Our study found that both patients and primary care clinicians recognize the need for health care systems to prioritize effective insomnia treatment, provide education about nonbenzodiazepine use, and offer support for the discontinuation of nonbenzodiazepines when necessary. Collectively, to encourage deprescribing and improve Z-drug use among older adults, patients require individualized care and clinicians require multidisciplinary support. ❖

Disclosure Statement

The author(s) have no conflicts of interest to disclose. The sponsor of this study, Kaiser Permanente Northwest Center for Health Research, had no role in the design, methods, subject recruitment, data collection, analysis, or preparation of the manuscript.

Acknowledgment

Kathleen Louden, ELS, of Louden Health Communications provided editorial assistance.

How to Cite this Article

Kuntz J, Kouch L, Christian D, Peterson PL, Gruss I. Barriers and facilitators to the deprescribing of nonbenzodiazepine sedative medications among older adults. Perm J 2018;22:17-157. DOI: https://doi.org/10.7812/TPP/17-157

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Natural Graces

That we are not much sicker and much madder than we are is due exclusively to that most blessed and blessing of all natural graces, sleep.

— Aldous Huxley, 1894-1963, British writer, novelist, and philosopher