Management of Hypnotic Discontinuation in Chronic Insomnia

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KEYWORDS

• Insomnia • Benzodiazepines • Hypnotic medications
• Discontinuation • Stepped-care approach • Sleep disorder

Pharmacologic approaches are the most widely used treatment options for the management of chronic insomnia.[1,2] Hypnotic medications are indicated and efficacious for treating situational insomnia.[3] However, despite clear guidelines suggesting that hypnotic drug use should be time limited,[3] a considerable proportion of individuals with insomnia use hypnotics on a nightly basis for prolonged periods of time, often reaching many years. Furthermore, many individuals will continue reporting significant sleep disturbances despite an appropriate therapeutic use of hypnotic medications.[4] In clinical practice, clinicians treating patients with chronic complaints of sleep difficulties are often faced with the dilemma of hypnotic discontinuation versus continued prescription. Although long-term use of hypnotics for the management of chronic insomnia remains controversial, information regarding hypnotic discontinuation is still scarce.

This article discusses different aspects of long-term hypnotic use in chronic insomnia, with a focus on the management of hypnotic withdrawal. Issues such as preoccupation with long-term use, factors associated with the development of hypnotic-dependent insomnia, and step-by-step treatment strategies to help discontinuation of hypnotic use are presented.

LONG-TERM HYPNOTIC USE

Preoccupation with Long-term Use

Chronic insomnia is consistently associated with significant reduction in the quality of life, higher risk of depression, and increased use of health care services.[5] Different drug classes are routinely used for the management of insomnia. These include benzodiazepine receptor agonists (BzRAs), selective melatonin receptor agonists, and sedating antidepressants. This article focuses on BzRA hypnotics only. This drug class includes 2 groups of prescription hypnotics: the classical benzodiazepines (BZDs; eg, temazepam, triazolam, flurazepam, quazepam, estazolam) and the more recently introduced drugs that have a non-BZD structure but act at the BZD receptor sites (eg, zaleplon, zolpidem, eszopiclone). Although classical BZDs have for many years been the drug class of choice for the treatment of insomnia, non-BZD hypnotics are now the indicated drug class

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for insomnia pharmacotherapy.[6] The main advantages that newer non-BZDs present over the traditional BZDs are their faster elimination rate and relative α-1 binding selectivity, which significantly decrease some of the side effects associated with the classical BZDs.[7] However, they are not free from side effects or adverse effects and, like their predecessors, have been associated with risks of dependence, higher risks of accidents and falls, and cognitive disturbances, which again calls for increased caution when they are prescribed to some specific groups of patients.[7–10] Furthermore, the risks associated with their prolonged daily use are still not very well documented, and well-designed studies to examine those risks are warranted. There is also very limited evidence in the literature regarding their sustained long-term efficacy over several years.[11–13] Another important limitation associated with hypnotic use for chronic insomnia is that treatment cessation is often associated with a return of sleep difficulties or with rebound insomnia, an exacerbation of the original insomnia severity. Recrudescence of insomnia symptoms after hypnotic discontinuation has been hypothesized to play a role in the development of hypnotic-dependent insomnia.[14] For these reasons, long-term use of hypnotics for the management of insomnia remains controversial.[3,15]

Factors Associated with the Development of Hypnotic-dependent Insomnia

Approximately 5% to 7% of the adult population uses prescribed sleep-promoting medications during the course of a year.[1,2,16] For most people, medication is used for a limited period of time (as in acute stress). For many patients, however, the pattern of use is occasional but recurrent and for others, medication is used on a regular and long-term basis. In most cases, sleep medication is initiated during acute episodes of insomnia that results from psychological stress, medical illness, or important schedule changes associated with jet lag or shift work. It may also be initiated in the context of chronic insomnia, when a person can no longer cope with the daytime impairments produced by recurring sleep disturbances.

Although the initial intent for both patients and prescribing physicians is to use medication for the shortest possible duration (ie, a few nights), some patients continue using it over prolonged periods of time, either because of persistent sleep disturbances or, on a prophylactic basis, in an attempt to prevent insomnia. Several psychological, behavioral, and physiologic factors contribute to maintain this pattern of habitual and long-term use.

With nightly use, tolerance is likely to develop with most hypnotic drugs. To maintain efficacy, it is sometimes necessary to increase dosage, but when the maximum safe dosage is reached, the person is caught in a vicious cycle. Although the medication may have lost its hypnotic properties, attempts at discontinuing it is likely to produce withdrawal symptoms, including rebound insomnia. Rebound insomnia is usually temporary but may persist for several nights in some patients. In any case, the experience of rebound insomnia heightens the patient's anticipatory anxiety and reinforces the belief that he or she cannot sleep without medication. This chain reaction is quite powerful in prompting the patient to resume medication use, and hence the vicious cycle of hypnotic-dependent insomnia is perpetuated.

Conditioning factors are also involved in long-term hypnotic use. For instance, by alleviating an aversive state (ie, sleeplessness), hypnotic drugs quickly acquire powerful reinforcing properties; as such, the pill-taking behavior becomes negatively reinforced. Although sleep medications are usually prescribed on an "as needed" basis to prevent tolerance, this intermittent schedule can also be quite powerful in maintaining the pill-taking behavior. A form of reverse sleep state misperception can also perpetuate hypnotic use. In general, unmedicated insomniacs tend to overestimate the time spent awake at night and underestimate total sleep time; conversely, medicated insomniacs (with BZD hypnotics) have a reversed sleep state misperception in that they overestimate sleep time and underestimate wake time while on medication and, upon withdrawal, become acutely aware of their sleep disturbances, a phenomenon that might very well be attributed to the amnestic properties of BZDs.[17] This might also explain why so many individuals continue using BZDs despite objective evidence that their sleep is impaired.[18]

In most cases of long-term hypnotic use, patients do not abuse their medications, in the sense of escalating and exceeding the recommended dosages; rather, they remain on the same therapeutic dose without escalation but continue using it for much longer periods than was initially intended and are unable to discontinue use. This self-contained and habitual pattern of drug use is likely to lead to dependency, although this type of dependency is often more psychological than physiological.

Although there is no specific profile that characterizes long-term hypnotic users, such use is more common among older adults, women, and persons with more severe insomnia, higher psychological distress, and more health

problems.[10,19,20] Lack of standard monitoring and follow-up of patients may also contribute to long-term use. On the other hand, some patients may place undue pressure on their family physicians requesting sleep medications. Prescribing medication is certainly less time consuming,[20] at least in the short term, than providing behavioral recommendations for insomnia.

HYPNOTIC DISCONTINUATION

Side effects and risks associated with long-term use are often major reasons for encouraging patients to discontinue use despite their perception of continued efficacy. Enduring insomnia symptoms in spite of appropriate therapeutic use may also warrant discontinuation and the need to seek other types of treatment. Other reasons may come from the patients themselves. By discontinuing hypnotic use, some patients report that they want to recover a more natural sleep, others want to feel less dependent on hypnotics or simply feel that they have been using hypnotics for too long and fear long-term effects. On the other hand, risks and benefits associated with long-term hypnotic use need to be weighted against those associated with untreated or self-treated insomnia[6] and availability of nonpharmacologic approaches.

Discontinuing hypnotic medications can pose quite a challenge to some individuals, especially for long-term users.[17,21,22] Several physiologic (withdrawal symptoms) and psychological factors (anticipatory anxiety, fear of rebound insomnia, personality) have been shown to influence discontinuation.[9,23,24] However, it remains difficult to predict who will encounter withdrawal problems, and factors predicting relapse are still poorly understood.

Difficulties encountered during hypnotic withdrawal and a high relapse rate after discontinuation have prompted the development of clinical treatment strategies to help patients discontinue long-term use of hypnotics. These interventions vary in their format and the degree of specialized care that the patients require, ranging from advice given during routine medical consultations to formal cognitive behavior therapy (CBT) delivered in the context of weekly therapy sessions by behavioral sleep medicine specialists.

Stepped-care Approach to Hypnotic Discontinuation

Russell and Lader[25] have proposed a stepped-care approach to manage discontinuation of long-term therapeutic use of BZDs (taken as anxiolytics or hypnotics). This approach tailors the amount of intervention according to patients' needs. According to this model, the first step is to give simple advice in the form of a letter or meeting to a large group of individuals regarding medication discontinuation and, if this fails, to gradually augment treatment from formal supervised medication tapering to specialized care, including different augmentation strategies such as CBT. Results of studies that have examined the outcome of this first-step intervention suggest that a simple information letter may be sufficient for some patients in helping them stop their hypnotic use. For example, in their study examining BZD taper with or without group CBT, Voshaar and colleagues[26] reported that a significant portion (14%; 285/2004) of the sample, who had received a personalized letter from their family physician advising them to discontinue BZD use, effectively discontinued use without more formal help. Using a similar first-step strategy, Gorgels and colleagues[27] observed a similar proportion of individuals in their sample who discontinued BZD use (15%–28%) after having been advised to do so by their family physician.

For those who may need more intensive and structured guidance in discontinuing their medication, a next step may be to implement a systematic supervised taper alone program. Many individuals, who had previously unsuccessfully attempted to stop the use of hypnotics, seem to benefit from a supervised, structured, and goal-oriented approach.[26,27] In a study comparing a taper alone program to taper combined with CBT for insomnia,[28] the proportion of participants who stopped their hypnotic use was greater in the group receiving the combined intervention (85%); however, a significant proportion of participants (48%) succeeded in discontinuing hypnotic use in the taper alone program group. Furthermore, when examining long-term outcome after discontinuation, those participants fared as well regarding abstinence as those who received the combined intervention.[29]

Systematic Discontinuation Procedures

There is clear evidence that hypnotic drugs should be discontinued gradually because abrupt discontinuation is associated with higher risks of withdrawal symptoms and health complications.[30,31] However, there are no empirically validated guidelines regarding the optimal rate of tapering. A regimen that has been frequently used in hypnotic reduction studies is to decrease initial dosage by 25% slices weekly or every other week until the smallest minimal dosage is reached.[23,28,32] It is important to keep in mind that taper pace may

need to be adjusted according to the presence of withdrawal symptoms and anticipatory anxiety; it can also be slowed if the person finds it too difficult to cope or feels unable to meet the reduction goal.[28,33] Nevertheless, taper duration should be time limited as much as possible, to mobilize the person's efforts over a restricted period.[34] Ideally, withdrawal should be supervised by a health care professional, and regular follow-ups should be scheduled during discontinuation. The taper process should be carefully planned with the patient, and it should be individualized to take into account the type of hypnotic used; dosage; frequency and length of use; and psychological factors, such as motivation, anxiety level, and anticipations.[24,33,35–37] A step-by-step hypnotic discontinuation program and taper schedule is proposed in **Table 1**.

According to this procedure, the first step is to carefully plan the discontinuation strategy with the patient and to set clear reduction goals. For individuals using more than 1 hypnotic drug, the first step is to stabilize use on 1 compound only, preferably the drug with the longer half-life. Another strategy that has been used in withdrawal studies is to switch the original short-acting drug to a longer-acting drug (eg, diazepam) to minimize withdrawal symptoms. However, there is little evidence in the literature to show that this strategy is associated with better outcomes. Broad anchor points can be set a priori, for example, to reduce initial dosage by 25% at the second week, 50% by the fourth week, and 100% by the tenth week. At the end of taper, when the smallest dosage is reached, medication-free nights are gradually introduced. At first, these "drug-holidays" can be planned on nights when the person feels it will be easier for him or her to refrain from taking sleep medication (eg, a weekend night, when there is no obligation the following day). Then, preselected nights when the hypnotic will be used regardless of whether the person feels they need it or not will be introduced. This last step may prevent the use of a medication on more "difficult" nights and, at the opposite, medication may be used on a night when there is no need for it. This strategy is used to weaken the association between lying in bed not sleeping and the pill-taking behavior.[21] An example of this taper strategy is illustrated in **Fig. 1**.

Some individuals may apprehend the final step of complete cessation and worry over the potential consequences of hypnotic withdrawal on their sleep. It may then be useful to remind them that

Table 1
Step-by-step hypnotic discontinuation program in long-term users

Steps to Taper Hypnotic Medications	Procedure
Plan the whole process: Physician and patient plan the discontinuation process over the following weeks in a collaborative fashion.	Assess regular daily dosage used. Stabilize dosage if needed. When patients use more than 1 hypnotic, stabilize dosage on only 1 drug (1–2 wk). Estimate total number of weeks required to complete withdrawal if medication is decreased by 25% every other week. A written plan can be given out to the patient as a worksheet to increase adherence.
Gradual taper	Decrease daily intake by 25% of initial dosage for 2 weeks. Repeat this step, until the smallest dosage is reached.
Hypnotic-free nights are gradually introduced	In the first week, it may be best to preselect nights associated with apprehension regarding next day's functioning. Increase number of those hypnotic-free nights in the second week.
Use on predetermined nights	Preselect nights regardless of next day's activities or anticipations. Strongly encourage adherence to the initial plan; give rationale.
Complete discontinuation. Plan follow-ups to assess maintenance and prevent relapse	Assess patient's anxiety regarding complete cessation and go over coping strategies. Remind the patient that the minimal dosage used in the last weeks likely had few objective effects on his/her sleep.

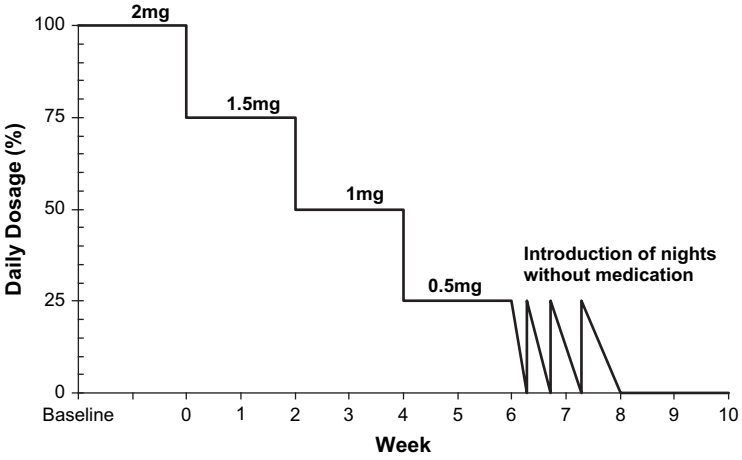

Fig. 1. Individualized taper program (eg, lorazepam, 2 mg).

the very small quantity of medication used in the final weeks of discontinuation was probably producing very little benefit on their sleep. Such apprehensions and worry about complete cessation should be addressed directly, because they may very well contribute to residual sleep disturbances after hypnotic discontinuation.[19,21]

Use of CBT During Hypnotic Discontinuation

There is now solid evidence that CBT is efficacious for treating insomnia and produces sustained benefits over time. For many individuals, CBT is recognized as the treatment of choice.[3,38] CBT for insomnia is often necessary to help long-term hypnotic users learn new skills to manage their sleep difficulties. The goals of using CBT during hypnotic discontinuation are twofold: to help reduce hypnotic use per se and to improve sleep during and after withdrawal. CBT for insomnia is a multidimensional, time-limited, and sleep-focused approach, which includes several strategies that target maintenance factors of insomnia. Strategies most commonly used are summarized in **Table 2**.

The benefits of using cognitive and behavioral interventions to facilitate hypnotic taper and to help maintain abstinence among individuals with insomnia are supported by empiric evidence.[19,26,28,32,39–45] Lichstein and colleagues[39] showed that progressive relaxation during supervised gradual medication withdrawal leads to significant hypnotic reduction and that participants who received relaxation training reported higher sleep quality and efficiency and reduced withdrawal symptoms compared with those who did not. Baillargeon and colleagues[40] compared 2 systematic taper programs; 1 was combined with multicomponent CBT, and the other was not. Results showed that a greater proportion of participants had completely discontinued hypnotic medication in the group with CBT (77% vs 38%). A study by Morin and colleagues[28] showed similar results, with a greater proportion of drug-free participants in the group that received a systematic hypnotic taper program combined with CBT compared with the group that received the taper alone (85% vs 48%). The results of this study also showed greater subjective sleep improvements in participants who discontinued sleep medication while undergoing CBT. Zavesicka and colleagues[32] have specifically examined the effect of discontinuing sleep medications during CBT on sleep quality and have shown that long-term hypnotic users may benefit to the same extent from this intervention, and maybe even more, than people with insomnia who did not use hypnotics. Their results showed that long-term users discontinuing hypnotic use showed greater sleep efficiency improvements after CBT compared with those who had received the same treatment, but had not previously resorted to pharmacologic sleep aids. However, the study did not include a follow-up of participants and thus does not provide information about long-term outcomes.

Some of the studies examining the usefulness and efficacy of CBT for insomnia have included hypnotic users in their sample, without addressing hypnotic discontinuation per se or providing a structured taper program. Nevertheless, several of these studies report significant reductions in hypnotic dosage, frequency of use, or both.[19,46,47] Morgan and colleagues[19] examined the effect of CBT on hypnotic reduction without pairing it with a systematic taper intervention. Their results showed that CBT alone helps reduce hypnotic use and improves

Table 2
CBT for insomnia

Component	Aim	Strategy
Sleep restriction	Consolidate sleep on a shorter period of time	Curtail time in bed to actual sleep time.
Stimulus control	Rebuild the association between the bed and bedroom and sleep	Go to bed only when sleepy. Use the bed and bedroom only for sleep and sex. Get out of bed and bedroom if unable to fall asleep within 20 min. Rise at the same time every morning regardless of the amount of sleep obtained the previous night. Avoid napping.
Cognitive therapy	Reduce cognitive activation at bedtime and during nocturnal awakenings Improve the management of daytime consequences of insomnia	Identify and challenge beliefs and attitudes that exacerbate insomnia, such as unrealistic expectations about sleep requirement, dramatization of the consequences of insomnia, erroneous beliefs about strategies to promote sleep, etc.
Sleep hygiene education	Reduce the impact of lifestyle and environmental factors on sleep disturbances	Review sleep hygiene principles about the effects of exercise, caffeine, alcohol, and environmental factors on sleep.

sleep quality, although the proportion of participants who no longer used hypnotics after 6 months was lesser (33%) than that reported in the previously cited studies. The authors suggested that this may in part be because of the fact that participants had not received explicit instructions to discontinue hypnotic use. Nevertheless, it is noteworthy that a third of the sample discontinued sleep medications after having learned new ways to manage their sleep difficulties, without having been directly advised to do so. In their comparative study, Morin and colleagues[28] had included a control group that received CBT, and the participants did not receive any formal guidelines or recommendations to discontinue medication. Participants who expressed the wish to stop hypnotic use during the study were invited to consult their family physician. Results in this group showed that 54% of the sample had discontinued use by the end of the study. However, information as to which procedure they followed or how much intervention they received regarding medication discontinuation was not systematically collected, thus limiting the possibility to further interpret these data. Long-term outcomes after discontinuation were later analyzed in this sample,[29] and the results showed that the participants from this group who had stopped their hypnotic use had significantly higher relapse rates than participants who had received the supervised taper program, either alone or combined with CBT. Soeffing and colleagues[4] examined insomnia treatment in older adults who were long-term users of hypnotic medications and showed that even when patients kept their hypnotic use stable throughout the intervention, CBT was also associated with significant sleep improvements.

An important issue that often arises in clinical practice is about when to implement CBT in the context of hypnotic discontinuation. Should CBT be initiated before, at the same time, at any step during, or after hypnotic discontinuation? Most discontinuation studies have implemented CBT and hypnotic discontinuation concurrently. In the studies conducted by Morin and colleagues[28] and Belleville and colleagues,[42] the first intervention week included 2 appointments: a consultation with a physician (when the first reduction goal was

set and instruction was given to start taper the same night) and the first CBT session (either therapist-guided[28] or via self-help brochure,[42] when information on sleep was provided and sleep restriction was introduced). At week 2, the second reduction goal was set, and session 2 of CBT, introducing stimulus control strategies, was provided. At week 3, the third reduction goal was set while the third session of CBT was provided, and so on. This strategy has the advantage of introducing new CBT strategies to manage sleep while patients are progressively letting go of their hypnotics. However, a potential drawback of this combined strategy is the considerable amount of information and recommendations given to patients at the same time. In the study comparing hypnotic discontinuation with and without self-help CBT,[42] 5 participants in the CBT group dropped out of the program. They all reported that hypnotic discontinuation and CBT guidelines were too difficult to follow. It is possible, however, that these patients needed direct therapist guidance. For some patients, it may be easier to introduce CBT before tapering or, on the contrary, begin taper for a few weeks, and then introduce CBT if sleep difficulties occur. In a small pilot study, Espie and colleagues[48] had found that patients who were withdrawn from medication early on in the behavioral treatment achieved better sleep outcomes than those withdrawn after the behavioral intervention.

In some cases, even if more clinical attention than a supervised taper program alone seems warranted, it may not be necessary to implement a full course of CBT (including 8–10 weekly sessions) delivered by a sleep specialist. It is possible that hypnotic discontinuation programs may be successful with fewer consultation visits (eg, at week 1 and week 4) and a self-help format of CBT. In such a context, brief weekly (15–20 minutes) phone contacts with a therapist to discuss sleep difficulties and to implement CBT strategies could be provided. This type of minimal intervention was examined, and it led to complete discontinuation of hypnotic use for two-thirds of participants posttreatment and for about half at the 6-month follow-up.[42] A secondary analysis of these data indicated that individuals experiencing worsening insomnia, more withdrawal symptoms and psychological distress (eg, anxiety or depressive symptoms), and lower self-efficacy (ie, confidence in one's own ability to stop medication) during and after the discontinuation program were less likely to be drug-free at the end of the intervention and 6 months after.[35] These might be indications that more intensive and individualized therapeutic supervision may be warranted for these individuals.

Using a more intensive program (ie, 10 weekly medical consultations with or without 10 weekly 90-minute CBT group sessions) led to an average interval of 2.6- and 18.6-month interval before relapse, ie, resuming regular use of hypnotics after the end of treatment, for individuals tapering their hypnotics with and without CBT.[29] Once again, higher insomnia severity and psychological distress were associated with shorter interval to relapse. These observations led to the suggestion that booster sessions might prove useful in preventing relapse, but this is yet to be empirically tested.

Clinical and Practical Considerations

Hypnotic discontinuation may require a good deal of adaptation for some patients, especially for long-term users with residual persistent insomnia symptoms, who therefore need to learn new ways of managing their sleep difficulties. Aspects such as readiness to change and motivation,[35] self-efficacy in being able to discontinue use or comply with the taper program,[33] and anticipations[22,28,33] are important factors to assess before withdrawal. The person needs to be willing and ready to change his or her habitual way of coping with insomnia, and motivation should be intrinsic rather than a result of pressure from a spouse or other family member. The latter is more likely to be associated with failure. Timing is also important; discontinuation of hypnotics in periods of acute stress or major life changes may be more difficult, and waiting for a better timing may be preferred. It is also important to define realistic goals for each individual; complete abstinence may not be desirable for all patients. For example, patients with very high anxiety levels may wish to discontinue their medication, but their quality of life may be significantly reduced if their sleep worsens with drug discontinuation. Finally, contraindications to hypnotic withdrawal need to be very carefully assessed. In patients with complex mental health problems (eg, schizophrenia, bipolar disorder) or a history of recurring depressive episodes or seizures, hypnotic discontinuation may provoke a relapse of the psychiatric problem and even worsen the patient's condition.

SUMMARY AND FUTURE DIRECTIONS

Observations stemming from different withdrawal studies suggest that a stepped-care approach to hypnotic discontinuation may be useful and cost-effective. In such an approach, long-term users would be first advised by their family practitioners on how to discontinue hypnotic use. If tapering off is not possible or if they experience a worsening

of sleep or psychological distress in doing so, enrollment in a program with systematic interventions but minimal guidance, such as a self-help approach, could be the next step. If this intervention appears to be insufficient to alleviate insomnia symptoms and distress, then patients could be referred to a behavioral sleep medicine specialist who would implement more intensive CBT involving weekly individual consultations. At the end of treatment, a booster session could be planned to monitor and prevent relapse. A meta-analysis examining the success rate of different discontinuation strategies provides some evidence for the efficacy of stepped-care approaches to medication discontinuation.[49] Evidence suggests that a stepped-care approach, in which the amount of intervention is progressively increased according to the needs of patients and according to their autonomy and distress levels in tapering off their medication, may be an interesting way to manage hypnotic discontinuation. However, much research remains necessary to tailor withdrawal programs according to patients' needs. At this time, factors such as treatment characteristics or individual characteristics of those who could most benefit from one or the other strategy, or a combination of those, remain poorly understood.

Current evidence suggests that CBT may be a useful adjunct to systematic hypnotic discontinuation programs. Whether or not it helps to reduce hypnotic use per se is still unclear. It could depend on themes and strategies discussed, but consistent favorable effects of CBT on sleep quality have been repeatedly reported. Guidelines as to when and how to implement CBT during hypnotic taper are still scarce. Most programs start and run both hypnotic taper and CBT at the same time. Evidence regarding optimal sequencing of these interventions is very limited, and future studies examining which combination is associated with better outcomes are necessary.

In summary, although the original intent is to prescribe hypnotics on a short-time basis, some patients will use them for much longer periods than was initially intended and may be unable to discontinue their medication by themselves. Structured taper programs with or without augmentation strategies such as CBT appear promising in facilitating discontinuation.

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