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An Expert Consensus Statement for Implementing Cognitive Behavioral Therapy for Nightmares in Adults

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ABSTRACT

Objectives: Research supports cognitive behavioral therapies for nightmares (CBT-N) in adults. However, the nuances of implementation and unstandardized nomenclature for treatment components has created confusion in the field. To provide clarification, an expert consensus panel convened to review treatment manual components and to develop guidelines for the standardized implementation and terminology of CBT-N. The aims of this paper are to report on the expert panel recommendations.

Methods: A literature review was conducted for nightmare treatment manuals that have been tested in randomized clinical trials with adults. the panel of experts evaluated the content and the main controversies regarding treatment components. The panel then established recommended treatment guidelines based on the literature and clinical experience.

Results: Recommendations pertain to which patient symptom presentations are appropriate for CBT-N and considerations for implementing treatment components including session length, relaxation training, stimulus control, sleep efficiency training, sleep hygiene, nightmare exposure, nightmare rescripting, and imagery rehearsal of rescripted dreams. The panel evaluated treatment components to inform the development of a consensus CBT-N treatment manual.

Conclusions: Using a comprehensive treatment manual based on expert recommendations will not only help disseminate nightmare treatment but also advance the field by providing clarity. These recommendations are based on the status of the field and will need to be revised to incorporate developing research evidence in nightmare treatment.

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The prevalence of nightmare disorder in the general adult population is 5% (Li et al., 2010). Nightmares are typically characterized as idiopathic (i.e., from an unknown cause) or trauma-related (i.e., beginning or changing in frequency, severity, or content after a traumatic event). Studies indicate that 30% of trauma-exposed civilian adults (Milanak et al., 2019) and 30–40% of active duty military personnel (Creamer et al., 2018) and members of the National Guard (Pruiksma et al., 2021) experience nightmares. Among individuals diagnosed with posttraumatic stress disorder (PTSD) nightmare rates are higher and are reported by 57% of civilians with PTSD (Milanak et al., 2019), 52% of male middle-aged Vietnam era combat veterans with PTSD (Neylan et al., 1998), and 50–70% of post-9/11 era active duty service members with PTSD (Pruiksma et al., 2016; Taylor et al., 2020).

A variety of cognitive behavioral interventions for adults effectively treat nightmares and improve insomnia, PTSD, and depression (e.g., Casement & Swanson, 2012; Ho et al., 2016; Romier et al., 2024; Yücel et al., 2020; one notable exception found that six sessions delivered in group format did not produce substantive improvement in Vietnam War veterans with PTSD; Cook et al., 2010; $N = 124$). In 2018, the American Academy of Sleep Medicine (AASM) published a position paper for the treatment of nightmare disorder in adults using pharmacologic and nonpharmacologic treatment options (Morgenthaler et al., 2018). The recommendations are summarized in Table 1. There is a wide range of names for the various treatments tested in randomized controlled trials (RCTs), which creates challenges in comparing treatment efficacy by protocol in systematic reviews and meta-analyses. Some treatment approaches changed over time or were not clearly delineated. Some manuals with the same name use different treatment components and some treatment protocols with different names use almost identical procedures (Harb et al., 2013). For example, the meta-analysis by Casement and Swanson (2012) included 13 different RCTs which included 8 identifiable variants.

> [1] Exposure, Relaxation and Rescripting Therapy (ERRT; Davis, 2009); [2] Image Rehearsal (IR)[a] adapted by Forbes et al. (2003) from the protocol of Thompson et al. (1995); [3] IR[b] adapted by Nappi et al. (2010) from the protocols of Forbes et al. (2003), Thompson et al. (1995), and Krakow and Zadra (2006); [4] Image Rehearsal Therapy (IRT)[a] which includes written exposure to the original nightmare narrative (Krakow et al., 2000); [5] IRT[b] which omits direct exposure to the original nightmare narrative (Krakow & Zadra, 2006); [6] Image Rehearsal Exposure Therapy (IRET) adapted by Long et al. (2011) from ERRT; [7] Sleep Intervention for PTSD (Ulmer et al., 2011); and [8] Sleep Dynamic Therapy (SDT; Krakow et al., 2002)". (p. 569, Casement & Swanson, 2012)

The AASM position paper (Morgenthaler et al., 2018) has a limitation that it does not distinguish among treatment components as discussed above. For this reason, we propose using the term "Cognitive Behavioral Therapy for Nightmares (CBT-N)" as an umbrella term to represent multi-component treatments for nightmares in adults, mirroring the well-established "Cognitive Behavioral Therapy for Insomnia (CBT-I)."

There is a large need for providers to be able to access high-quality training to provide appropriate healthcare services for adults experiencing chronic and frequent nightmares. Unfortunately, training opportunities for nightmare treatment are scarce partially because of the confusion in the field. To build training opportunities that can be rolled out requires a consistent treatment approach. The overarching goal of this statement is to bring clarity and unity to the field of nightmare treatment in adults by reporting on the expert panel discussions and recommendations to guide nightmare treatment based on evaluation of the highest quality evidence and expertise. This process was guided by the key question: Given the available evidence and descriptions of nightmare treatment components in manuals utilized in RCTs, what are the recommended components of CBT-N? This statement is also guided the development of a consensus treatment manual (Pruiksma et al., 2023a). These recommendations are intended to complement providers' clinical judgment, encouraging them to apply their case conceptualization skills to tailor treatment as needed.

Table 1. 2018 American Academy of Sleep Medicine position paper for the treatment of nightmare disorder in adults recommendations for behavioral treatments.

PTSD-Associated Nightmares and Nightmare Disorder	
Recommended	Image Rehearsal Therapy
May be used	Cognitive Behavioral Therapy Cognitive Behavioral Therapy for Insomnia Eye Movement Desensitization and Reprocessing Exposure, Relaxation, and Rescripting Therapy
Treatment of Nightmare Disorder	
May be used	Cognitive Behavioral Therapy Exposure, Relaxation, and Rescripting Therapy Hypnosis Lucid Dreaming Therapy Progressive Deep Muscle Relaxation Sleep Dynamic Therapy Self-Exposure Therapy Systematic Desensitization Testimony Method

Morgenthaler et al. (2018); PTSD = posttraumatic stress disorder.

Method

A panel of experts met on three occasions (twice in 2021 and once in 2022) to discuss consensus recommendations for training in nightmare treatments in adults in support of a project funded by the Department of Defense to develop a web-based provider training for CBT-N, CBTNightmares.org (W81XWH2110576, PI: Pruiksma).The panel included experts in behavioral sleep medicine, trauma-related nightmares, idiopathic nightmares, insomnia, trauma, dissemination, implementation, and RCTs of nightmare treatments. The panel reviewed the treatment component topics listed in Table 2 along with a discussion of the instructions included in a representative number of treatment manuals pertaining to sleep habits to change, instructions for writing a nightmare account (when applicable), instructions for rescripting, and instructions for imagery rehearsal practice. These manuals were considered representative of the approaches being utilized in the field and reviewed in detail for the summit meetings: Imagery Rehearsal Therapy (Krakow et al., 2001a); Imagery Rehearsal + Cognitive Behavioral Therapy for Insomnia (Harb et al., 2019); Exposure, Relaxation, and Rescripting Therapy (ERRT; Davis & Wright, 2007; Davis et al., 2011; Pruiksma, Cranston, et al., 2018); Exposure, Relaxation, and Rescripting Therapy for Military (ERRT-M; Pruiksma et al., 2020); Cognitive Behavioral Therapy for Insomnia and Nightmares (CBT-I&N; Taylor et al., 2023); Sleep Intervention for PTSD (Ulmer et al., 2011).

The panel discussed key questions to come to a consensus regarding which components to include and how each component should be delineated in a standardized treatment manual and training. The expert panel recommendations for implementing CBT-N in adults are summarized in Table 2.

Table 3 presents treatment components listed in a range of RCTs of nightmare treatments. To identify these RCTs, PubMed and PsycINFO electronic databases were searched using combinations of search terms, such as "nightmare treatment", or "nightmare psychotherapy" and "randomized controlled trial." Manuals were selected if (1) the trial was conducted with adults aged 18 years or older, (2) nightmares were required in the inclusion criteria, (3) at least one cognitive behavioral approach in the study was considered a "full package" and not a part of a treatment for examining mechanisms of change, (4) the trial had statistically significant findings on nightmares (frequency and/or severity; within group or between groups), and (5) a clinical provider delivered the treatment protocol (i.e., self-help approaches were not included). Figure 1 is a flowchart of the identification of these RCTs.

Table 2. Content analysis of treatments utilized in randomized clinical trials for nightmare treatments.

	IRT	SIP	BSI	IRT	IRT + CBT for PTSD	ERRT	IRT	IR + CBT-I	ERRT-M	IE	CBT-I&N + CPT for PTSD
RCT(s)	Krakow et al. (1995, 2001a)	Ulmer et al. (2011)	Germain et al. (2012)	van Schagen et al. (2015)	Belleville et al. (2018)	Davis and Wright (2007), Davis et al. (2011); Pruiksma, Cranston, et al. (2018)	Sheaves et al. (2019)	Harb et al. (2019)	Pruiksma et al. (2020)	Schmid et al. (2021)	Taylor et al. (2023)
Target population	Female sexual assault survivors with PTSD	Post 9/11 Veterans with PTSD and insomnia	US Military Veterans with sleep complaints	Severe psychiatric specialty mental health clinic	Sexual assault survivors with PTSD	Trauma-exposed community samples	Patients with Persecutory Delusions	Post 9/11 US Veterans with PTSD	Trauma-exposed Post 9/11 US active-duty military	Patients with idiopathic nightmares	US active-duty military with nightmares, PTSD, and insomnia
Comparison(s)	Waitlist	TAU	Placebo Prazosin	TAU	Waitlist+ CBT for PTSD	Waitlist Waitlist NEX	TAU	CBT-I	MCC	Imagery Rescripting Positive imagery	CPT+ CBT-I&N CPT+CPT
N	108	22	50	90	42	49, 47,70	24	108	40	96	93
Format of sessions	Group	Individual	Individual	Individual	Individual	Group or Individual	Individual	Individual	Individual	Individual	Individual
Country/ Language	US/English	US/English	US/English	Netherlands/ Dutch	Canada/ French	US/English	UK/English	US/English	US/English	German/ Germany	US/English
Number of sessions	3–4	6	8	6	5	3	4–6	6	5	1	6
Length of sessions	3–4 hours	60 min.	45 min	60 min.	60 min.	60–90 min.	60 min.	50–70 min.	60–90 min.	75–90 min.	50–60 min.
Sleep diaries used throughout	-	✓	✓	Nightmare Log	Nightmare Log	✓	Nightmare Log	✓	✓	Nightmare Log	✓
Education on sleep/ insomnia	Some	Some	✓	-	-	✓	-	✓	✓	-	✓
Education on trauma	-	-	-	-	-	✓	-	-	✓	-	-
Education on PTSD	✓	-	-	-	-	✓	-	✓	✓	-	-
Education on nightmares	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓
Relaxation training	-	✓	-	-	-	✓	-	✓	✓	-	✓
General imagery exercises	✓		-	✓	✓	✓	✓	-	✓	-	✓

(*Continued*)

Table 2. (Continued).

	IRT	SIP	BSI	IRT	IRT + CBT for PTSD	ERRT	IRT	IR + CBT-I	ERRT-M	IE	CBT-I&N + CPT for PTSD
Grounding	-	✓	✓	✓	-	✓	-	✓	✓	-	✓
Stimulus Control	-	Some	✓	-	-	✓	-	✓	✓	-	✓
Sleep Hygiene	-	Some	✓	-	-	✓	-	✓	✓	-	✓
Sleep Restriction	-	✓	✓	-	-	-	-	-	-	-	✓
Write target nightmare	General	-	General	General	General	Detailed	-	Detailed	Detailed	General on diary	Detailed
Say/read target nightmare out loud	-	-	-	✓	-	✓	-	✓	✓	✓	✓
Provide example nightmare or rescription	-	✓	-	-	-	✓	-	-	✓	-	✓
Brainstorm rescription	-	✓	✓	✓	✓	✓	✓	✓	✓	-	✓
Provide example rescriptions	-	-	-	✓	-	✓	-	✓ (verbally)	✓ (written)	-	✓ (written)
Rescription	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓
Assign Imagery Rehearsal	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	✓
In-session rehearsal practice	✓	✓	✓	✓	✓	-	✓	✓	-	-	-
Problem solving for insomnia/ To-do list/ Worry time	-	-	-	-	-	-	-	✓	-	-	-
Planning for future	-	-	✓	✓	✓	✓	✓	✓	✓	-	✓
Number of nightmares targeted	1–2 per week	Multiple but 1 at a time	1–2 per week	1 at a time	1	1 at a time, Option to target 2 in session	1	1	1 at a time, Option to target 2 in session	Up to 2 per week	1 at a time, Option to target 2 in session

BSI = Behavioral Sleep Intervention; CBT-I = Cognitive Behavioral Therapy for Insomnia; CBT-I&*N* = Cognitive Behavioral Therapy for Insomnia and Nightmares; CPT = Cognitive Processing Therapy for PTSD; ERRT = Exposure, Relaxation, and Rescripting Therapy; ERRT-M = Exposure, Relaxation, and Rescripting Therapy – Military; IE = Imaginal Exposure; IR + CBT-I = Imagery Rehearsal + Cognitive Behavioral Therapy for Insomnia; IRT = Imagery Rehearsal Therapy; MCC = minimal Contact Control; NEX = ERRT without nightmare exposure and rescripting; SIP = Sleep Intervention for PTSD; TAU = Treatment as usual.

Table 3. Expert panel recommendations for implementing cognitive behavioral therapy for nightmares in adults.

Topic	Recommendation
CBT-N Treatment Session Length	• Session length is best determined by clinical setting. • Flexibility for personalizing the treatment to the patient is encouraged. • The consensus treatment manual presents six sessions that are intended to last 50–60 minutes each and includes recommended outlines to guide 30-minute or 90-minute sessions.
Indication of CBT-N	• Anyone experiencing Dreams, that cause Awakenings, that they at least partially Remember, and that cause Clinically significant impairment (can be remembered with the acronym "DARC"). • Consider cultural beliefs and practices related to dreams.
Trauma-Related vs Idiopathic Nightmares	• The same procedures can be used to treat both idiopathic and trauma-related nightmares.
Relaxation Training and Grounding	• Relaxation training is an essential treatment component. • Find practice that patients are likely to use regularly and recommend that (a) they practice 10–15 minutes a day and (b) the initial relaxation includes some type of imagery. • Include in-session relaxation practice when introducing relaxation training and for all subsequent CBT-N sessions as time allows. • The patient can practice relaxation practice in bed in order to associate the bed with relaxation. • Introduce grounding skills for coping with awakenings due to nightmares early in treatment.
Elements of CBT-I	• Sleep habit modifications related to stimulus control therapy and sleep hygiene are essential treatment components. • The panel recommends the following habits be considered: (1) get out of bed at the same time each day (2) use your bed and bedroom only for sleep and sex (3) unwind before bed with a sleep routine that limits screentime and light (4) go to bed only when you are sleepy, not just tired (5) get out of bed if awake more than about 15 minutes (avoid watching the clock) (6) avoid naps (7) make your sleep environment comfortable (8) cut down or stop nicotine, alcohol, and cannabis at bedtime and at night (9) stop having caffeine about 10 hours before your desired bedtime; (10) use grounding strategies when waking from a nightmare (11) reduce safety behaviors at night (12) schedule worry time or planning time well before bedtime. • Present a range of options for healthy sleep habits to adopt and collaborate with patients to decide which habits to focus on first. • Consider using hierarchies to gradually modify habits that are based on avoidance and fear (e.g., reducing checking behaviors at night, acclimating to sleeping in a dark, instead of a light, environment). • Sleep efficiency training is optional for providers with appropriate training and experience and for cases in which primary factors perpetuating insomnia include spending excessive time in bed.
Exposure to Original Nightmare	• Exposure to the original nightmare content is considered as an initial course of action in order to leverage the strongest approach from the outset. • Recommend exposure guidelines are to write the nightmare: (1) in present tense (2) in first person (3) to incorporate as many sensory details as possible (4) to describe any thoughts or emotions (5) to write as much of the nightmare as possible (6) to ignore concerns about handwriting, spelling, or grammar. • For patients with trauma-related nightmares, it is important to clarify that treatment is focused on the nightmare and not the trauma itself. • Nightmare rescripting with minimal exposure to the original nightmare content can be be considered in cases when a patient has limited time to complete all sessions or persistently declines to engage in nightmare exposure.

(*Continued*)

Table 3. (Continued).

Topic	Recommendation
Selection of First Target Nightmare	• For the first exposure exercise, the patient is encouraged to select the nightmare that is the most distressing, vivid, trauma-related, or frequent. • If the nightmare is replicative of a lived traumatic experience, providers are encouraged to help patients find some way to differentiate the nightmare from the trauma memory and to emphasize that difference during the exposure exercise. • If patients are unclear about which nightmare to target, they can be encouraged to select a nightmare they have most often or to select a recent nightmare that they can clearly remember. • Opportunities to target additional nightmares should be provided if possible.
Nightmare Rescription Procedures	• Prior to rescription, help patients identify which themes of safety, trust, power/control, esteem, intimacy are represented in the nightmare and to write a rescription that addresses the themes. • Recommended rescription guidelines are as follows: (1) write the dream rescription in the present tense (2) in first person (3) incorporate as many sensory details as possible (4) describe any thoughts or emotions that occur during the dream rescription (5) include a link between the nightmare and the rescription (6) ignore concerns about handwriting, spelling, or grammar • Within these guidelines, patients are encouraged to write the dream rescription any way they wish.
Assigning Imagery Rehearsal of Rescripted Dream	• Patients are encouraged to practice imagery rehearsal of their dream rescription (i.e., imagine their new dream) for 10 minutes each night followed by relaxation practice. • When introducing imagery rehearsal, practice in session to help the patient become familiar with the process and to facilitate problem solving around any barriers.
Treatment of Nightmares with Comorbid PTSD	• Consider the case formulation and the patient's preferences through a process of shared decision making to determine if treatment will target nightmares or PTSD first.

CBT-N = Cognitive Behavioral Therapy for Nightmares; DARC = Dreams, that cause Awakenings, that they at least partially Remember, and that cause Clinically significant impairment; PTSD = posttraumatic stress disorder.

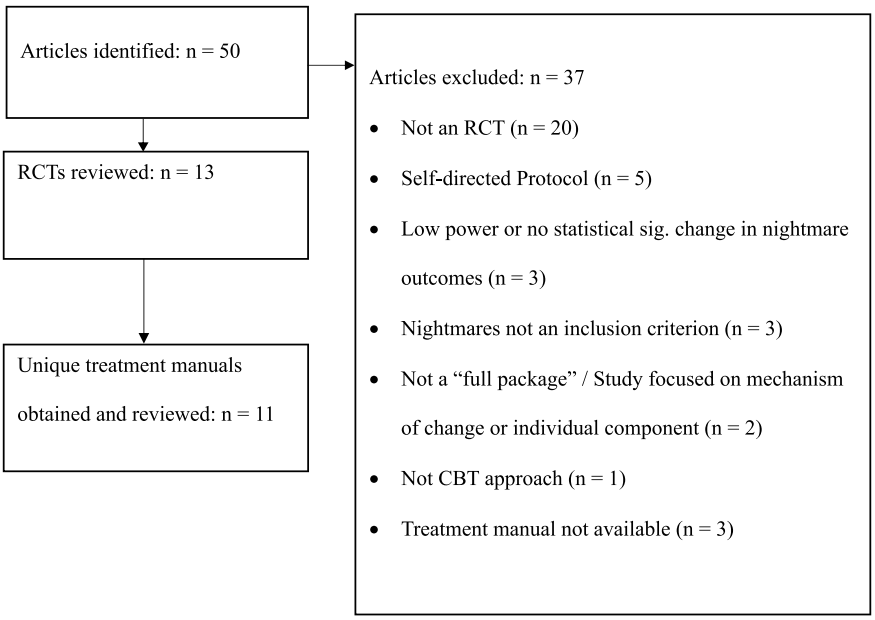

Figure 1. Flowchart of identification of randomized clinical trials of nightmare treatments. CBT = Cognitive Behavioral Therapy; RCTs = Randomized clinical trial.

Resultant recommendations

CBT-N treatment session length

Nightmare treatment protocols tested in RCTs utilized a wide range of session numbers and length, and optimal dose has not been empirically determined. Thus, the panel agreed that session length is best determined by clinical setting. Flexibility for personalizing the treatment to the patient is encouraged. The consensus treatment manual presents six sessions that are intended to last 50–60 minutes each (see Table 4) and includes recommended outlines to guide 30-minute or 90-minute sessions.

Indication for CBT-N and Cultural considerations

Although there is ongoing debate about how best to define nightmares (e.g., Gieselmann et al., 2019; Hasler & Germain, 2009; Zadra & Donderi, 2000), the panel agreed on the following definition: Well-remembered dreams with distressing emotions that cause awakenings.

The waking criterion was selected because (1) it is included in a number of theoretical models of nightmares across research groups (e.g., Davis, 2009; Krakow & Zadra, 2006; Nielsen & Levin, 2007; Richards et al., 2023; Woodward et al., 2018); (2) The American Academy of Sleep Medicine, International Classification of Sleep Disorders, 3rd ed.-TR defines "nightmares as vivid, well-remembered dysphoric dreams that cause awakening" (American Academy of Sleep Medicine, 2023) and the International Classification of Diseases, 10th ed defines nightmares as "frightening dreams which precipitate awakenings from sleep . . . " (ICD-10-CM, https://icdlist.com/icd-10/F51.5); and (3) Our interpretation of the language in the DSM-5-TR language is that it implies awakening as part of diagnostic criteria B "upon awakening from the dysphoric dream . . . " although that awakening may occur later in the night (APA, 2022, p. 404). The Diagnostic Features also state "Nightmares usually terminate with awakening" (p. 405).

Nightmares are differentiated from anxiety dreams which do not cause awakenings, night terrors which are not remembered by the sleeper, and nocturnal panic attacks which are not triggered by dreams (American Academy of Sleep Medicine, 2014; American Psychiatric Association, 2022; ICD-10-CM). The criteria for determining whether someone could benefit from CBT-N can be remembered with the acronym "DARC": anyone experiencing **D**reams, that cause **A**wakenings, that they at least partially **R**emember, and that cause **C**linically significant impairment.

It is important to recognize that dreams hold significant meaning across various cultures worldwide (Hinton, 2009; Hollan, 2009; Lohmann, 2019). Cultural beliefs and practices surrounding dreams are diverse and complex, shaped by historical, social, and spiritual contexts, and must be considered in nightmare treatment. It may be helpful to for the provider or patient to consult with a spiritual or community leader and it may not be appropriate to conduct exposure or rescripting for individuals if such approaches are inconsistent with their values.

Trauma-related vs idiopathic nightmares

Early nightmare treatment studies (e.g., Cellucci & Lawrence, 1978, Kellner et al., 1992a, 1992b; Miller & DiPilato, 1983; Neidhardt et al., 1992) did not assess trauma or PTSD. Later, a series of studies focused on trauma-related nightmares (e.g., Cook et al., 2010; Davis & Wright, 2007; Krakow et al., 2001a) and more recent studies specifically examined idiopathic nightmares (e.g., Gieselmann et al., 2017; Schmid et al., 2021). Similar protocols have been used for both idiopathic and trauma-related nightmares. However, we are not aware of any studies that directly compared treatment outcomes in idiopathic and trauma-related nightmares. Given the state-of-the-literature, the panel recommends the same procedures can be used to treat both idiopathic and trauma-related nightmares. Clinicians may opt to deliver additional trauma-focused psychoeducation to trauma-exposed patients, who

Table 4. Summary of recommended and optional session contents for 60-minute sessions of cognitive behavioral therapy for nightmares.

Core Sections	
1	Overview of Treatment Education about sleep Helpful sleep habits Grounding
2	Education about nightmares, stress, and sleep Theories about nightmares Progressive muscle relaxation
3	Rationale for exposure therapy Write and read a nightmare Identify nightmare themes Rational for dream rescription Diaphragmatic breathing
4	Write dream rescription and read out loud Diaphragmatic breathing Introduce imagery rehearsal
5	Second rescription OR Write a second nightmare
6	Second rescription Review of skills Plan for the future

Optional Sections		Indication
1	Nightmare Rescription with Minimal Exposure to the Nightmare Account	Idiopathic nightmare Limited time to complete all sessions Persistently declines nightmare exposure
2	Trauma Psychoeducation	Patient has trauma-related nightmares but has not received trauma psychoeducation
3	Additional Sleep Education	Patient is interested or could benefit from additional treatment rationale
4	Sleep Efficiency Training/Sleep Restriction Therapy	Provider has training Patient spends excessive time awake in bed
5	Sleep Compression	Provider has training Patient spends excessive time awake in bed

would benefit from additional understanding of the posttraumatic stress response (see Table 4, optional section).

Relaxation training and grounding

Given research that links reduced parasympathetic activity to nightmares (e.g., Miller et al., 2018; Tomacsek et al., 2024) and studies that highlight pre-sleep arousal's link to nightmare occurrences (Paquet et al., 2024; Youngren et al., 2020), in CBT-N, relaxation training is recommended to helps reduce stress and tension before bed and during awakenings. Several RCTs comparing active treatments have found that relaxation training alone (Miller & DiPilato, 1983) or with unhelpful sleep habit modification (Harb et al., 2019; Pruiksma, Cranston, et al., 2018), can significantly reduce the frequency and intensity of nightmares. Therefore, the panel recommends that relaxation training be introduced early in treatment and that relaxation exercises be practiced by patients for at least 10–15 minutes per day. The panel also recommends that some of the initial relaxation training involve guided imagery, as that practice will be useful later in treatment when patients are asked to imagine rescripted dreams (e.g., Krakow & Zadra, 2010). Briefly practicing relaxation in each session, when possible, helps reduce anxiety at the end of sessions, models the importance of prioritizing time for relaxation, gives the provider several opportunities to observe how the patient is implementing relaxation, and allows for problem solving as needed. Although stimulus control therapy guidelines recommend that patients use the bed for sleep or sex only, for nightmare treatment, it is recommended specifically that relaxation practice be conducted in bed to associate the bed with relaxation and to reduce disruption if the patient were to fall asleep. However, if patients have difficulties with experiencing memories of nightmares or trauma when they practice relaxation, relaxation can be practiced outside of the bed as part of a bedtime routine.

The panel recommends teaching grounding strategies early in treatment as a tool patients can start using right away to reduce their arousal after having nightmares. There are many different forms (e.g.

focusing on breathing or details in the environment, humor, etc.), and providers can encourage patients to experiment to find a grounding strategy that works for them.

Components of cognitive behavioral therapy for insomnia (CBT-I)

There is a high prevalence of co-occurring insomnia and nightmares (e.g., Milanak et al., 2019; Pruiksma et al., 2021). In such cases, insomnia and nightmares are inherently related. The dread of nightmares can exacerbate difficulties falling asleep and nightmares cause awakenings during the night and may also result in early morning awakenings because it can be very difficult to return to sleep. Patients may avoid sleep because they fear having nightmares. Changing unhelpful sleep habits, along with relaxation training, can significantly reduce nightmares (e.g., Harb et al., 2019; Miller & DiPilato, 1983; Pruiksma, Cranston, et al., 2018). For these reasons, the panel recommends stimulus control and sleep hygiene elements of CBT-I as part of CBT-N.

As depicted in Table 2, both stimulus control therapy and sleep hygiene were included in some of the treatment manuals examined. Sometimes stimulus control instructions were subsumed under a broader sleep habit list. The importance ascribed to different habits varied across manuals. The panel agrees on the importance of stimulus control therapy given its strong theoretical and research foundation. Although sleep hygiene is often considered secondary in the treatment of insomnia, it may be essential in nightmare treatment. For example, some patients drink a lot of liquid before bed so that they will wake to use the restroom instead of from a nightmare. Providers are encouraged to be flexible in determining the number of habits to change at the end of any session. A list of sleep habits to consider is included in Table 3.

Optional component

Sleep efficiency training, also called sleep restriction therapy, is considered a central component of CBT-I (Edinger et al., 2001). Only two of the RCTs reviewed included sleep efficiency training (Germain et al., 2012; Taylor et al., 2023). It is important to note that sleep efficiency training has not been extensively systematically tested and that patients with nightmares may already have a restricted sleep window due to avoidance of sleep or because nightmares are causing awakenings. In these cases, sleep efficiency training may not be appropriate, and it may be more helpful to help the patient tolerate more time in bed with stimulus control therapy, relaxation training, and cognitive restructuring. Given these considerations, the panel recommends that providers with appropriate experience in sleep efficiency training consider implementing sleep efficiency training if (1) low sleep efficiency is present and (2) the patient spends excessive time in bed. However, spending excessive time in bed may also be sufficiently addressed by the stimulus control guidelines of going to bed only when sleepy and getting up at the same time every day.

Exposure to original nightmare content

One of the most debated issues in nightmare treatment is the degree to which the original nightmare is discussed, particularly if a nightmare resembles a lived traumatic experience. Some treatment manuals ask patients to think of a target nightmare and then to change it any way they wish (e.g., Neidhardt et al., 1992), others ask patients to share or write out general outlines of the target nightmare (e.g., Krakow et al., 2001a, Ulmer et al., 2011), whereas others utilize exposure therapy approaches to have the patient write the nightmare out in as much detail as possible in first person and present tense and then read the nightmare account aloud in session (e.g., Davis, 2009; Harb et al., 2019). In contrast to treatments for other conditions (e.g., OCD, PTSD), exposure is conducted in session but not assigned for homework.

Mechanistic studies comparing interventions with and without exposure have been conducted among patients with primarily idiopathic nightmares (i.e., Kunze et al., 2017; Schmid et al., 2021) and among patients with trauma-related nightmares (i.e., Harb et al., 2019; Pruiksma, Cranston, et al.,

2018). Across studies, all treatment approaches (i.e., imagery rescripting, positive imagery, imaginal exposure, ERRT, CBT-I) improved nightmares with no significant differences between treatments. The sample sizes of these studies may limit the power to detect differences between two active treatments. The panel recognizes that although minimal discussion of the target nightmare may be effective for many individuals, exposure therapy for nightmares and other conditions (e.g., PTSD, phobias, OCD; Bisson et al., 2019; Davis, 2009; Olatunji et al., 2009; Reddy et al., 2020; Reid et al., 2021) is highly potent and not likely to be harmful. In addition, discussing nightmare content in session provides an opportunity for the patient to experience feelings of mastery over the nightmare experience (Germain et al., 2004; Rousseau & Belleville, 2018) and helps patients tolerate negative emotions (Kunze et al., 2019). Therefore, the panel recommends nightmare exposure be considered as an initial course of action, aiming to leverage the strongest approach to treatment at the outset.

Some providers hesitate to engage in exposure-based therapies because these therapies are aversive to some patients due to increasing anxiety and they can sometimes lead to drop out from treatment. However, increased anxiety in therapy happens quite often when approaching difficult topics with patients. It is important that providers understand the underlying theory supporting this approach and can confidently help their patients "sit with the anxiety." With a clear rationale that facing fears of things that are not objectively dangerous is effective in reducing the fear and taking control, most patients are willing to write the nightmare and often find this component to be a powerful and meaningful experience. For patients with trauma-related nightmares, it is important to clarify that treatment is focused on the nightmare and not the trauma itself. For patients with idiopathic nightmares, minimal exposure to nightmare content may be more appropriate (e.g., Schmid et al., 2021) but this is an empirical question. If a patient is unwilling to engage in exposure after understanding the rationale, other aspects of the treatment, such as rescription, may still bring benefit. Therefore, exposure should not be seen as a required component of this intervention, but rather as a valuable tool that will benefit many, but may not be suitable for everyone. Minimal exposure to the nightmare may be considered for cases in which a patient has limited time to complete all sessions or persistently declines to engage in nightmare exposure. Idiopathic nightmares may also be more responsive to rescription with minimal exposure to the original nightmare content, but this has not been directly tested.

Selection of target nightmare

A dilemma that arises in cases where multiple nightmares are reported is deciding which nightmare to target first. Should the worst nightmare be targeted, particularly if the nightmare closely resembles a traumatic experience? Or should treatment focus on a less severe nightmare first? There is limited research to guide this decision. The panel recommends that for the first exposure and rescription exercises, the patient be encouraged to select the nightmare that is the most distressing, vivid, trauma-related, or frequent for several reasons. First, treatment is brief, and we want patients to have the opportunity to work on the most difficult nightmares while they are receiving support. Second, targeting a less distressing nightmare first may represent avoidance of their worst nightmare, and therefore, reduce the benefit of therapy. Third, addressing the worst nightmare first will better equip the patient to address other nightmares on their own after therapy has ended. Finally, from the panel's clinical experience, progress made on the worst nightmare can generalize to other less distressing nightmares, but this does not tend to work the other way around (Davis et al., 2011).

Many providers have concerns about how to proceed if a nightmare is replicative or similar to the trauma because of the sensitive nature of discussing traumatic events. One approach is to highlight that even the most replicative nightmares include content or sensation that differ from what really happened. For example, in the nightmare, the patient may have a sense of what is about to happen when, in reality, the events of the trauma were unexpected. Helping the patient find some way to differentiate the nightmare from the trauma memory by emphasizing any differences during exposure exercises is often helpful.

Some patients have difficulty identifying their most distressing nightmare. In these cases, the provider will have the patient consider which nightmare they have most often or a well-remembered recent nightmare. Later sessions will offer an opportunity to target additional nightmares, if needed. Other patients may deliberately choose a less distressing nightmare as a means of avoidance. In the panel experts' experiences, such patients will want to work on the most distressing nightmare in later sessions when they are more comfortable with the process.

Nightmare rescription procedures

The overall goal for nightmare rescription is to have the patient write a changed dream script that is different from the nightmare. The rationale is that changing dreams involves learning like changing any other behavior. When nightmares happen repeatedly, the nightmare patterns become an automatic or "default" dream pattern. Creating and repeating a new dream can change the old disturbing dream pattern. In other words, rescription is a way of priming the brain to have a different type of dream and supports a sense of mastery related to nightmares and dreaming (Germain et al., 2004; Kunze et al., 2019). Research suggests that addressing and resolving a theme in the rescription is more helpful in reducing sleep disturbances than changing the nightmare any way the patient wishes (Harb et al., 2012). ERRT (Davis, 2009) includes specific themes thought to be particularly affected by trauma (safety, trust, power/control, esteem, and intimacy; McCann et al., 1988). These themes are also utilized in Cognitive Processing Therapy for PTSD (CPT; Resick et al., 2017) and were originally identified by McCann and Pearlman (1992). Similar themes are present in idiopathic nightmares, particularly in the form of threats to physical integrity, interpersonal dynamics, and feelings of failure or helplessness (Robert & Zadra, 2014).

The panel recommends working with the patient to identify which themes of safety, trust, power/control, esteem, and intimacy are represented in the nightmare and to write a rescription that addresses each relevant theme. The goal of rescription is not necessarily to make the dream positive or happy when addressing the theme (which does not make sense for some patients). The goal is to change the dream to one the patient would like to have, not to create a less severe nightmare (although most patients do not dream their rescription). Patients are encouraged to write the dream rescription in the present tense, in first person, to incorporate as many sensory details as possible; to describe any thoughts or emotions that occur during the dream rescription, and ignore concerns about handwriting, spelling, or grammar. There also needs to be a link between the nightmare and the rescription. The rescription should not be completely unrelated to the original nightmare. In most instances, patients start their rescription similar to the nightmare and make changes to the most distressing elements. Patients are encouraged to take an active role in the rescription content. Within these guidelines, patients may write their dream rescription any way they wish. Opportunities to target additional nightmares should be provided, if possible.

Guidance for assigning imagery rehearsal of rescripted dream

Imagery rehearsal involves the patient imagining their dream rescription each night. This practice is done by picturing the new dream in as much detail as possible. Patients can refer to their written script to initiate the imagining process and are advised to not imagine their original nightmare content. The rationale for this practice, particularly prior to sleep, is like the way athletes visualize their actions before a competition. Again, treatment manuals vary in the specific recommendations. The panel recommends that patients be encouraged to imagine their new dream (i.e., rescription) each night for approximately 10 minutes followed by relaxation practice right before they go to bed. A 10-minute timeframe was determined because it is long enough that the imagery will have the intended effect and not so long that patients will disengage. Patients also are encouraged to practice during the day. The optimal dose of imagery rehearsal is an area for further research.

Because imagery rehearsal will likely be a new type of practice for the patient, providers are encouraged to spend time in session having the patient either close their eyes or focus on a neutral spot in the room while they imagine the rescription. Practicing imagery rehearsal in session helps the patient become familiar with the process and provides an opportunity for the provider to facilitate problem solving around any potential barriers. In the suggested CBT-N protocol (see Table 4), sessions 4–6 are dedicated to rescription and imagery rehearsal practice. It is important to note that some individuals may have different degrees of aphantasia, which is the inability to form mental images. Imagery rehearsal may be difficult for them and, although research is needed in this area, other components of CBT-N are likely to be beneficial.

Treatment of nightmares with comorbid PTSD

Currently, there is not enough research to provide evidence-based guidelines for how to proceed if a patient with frequent nightmares also meets criteria for PTSD. Importantly, the VA/DoD Clinical Practice Guideline (2023) for the management of PTSD state that "there is insufficient evidence to recommend for or against the following treatments for nightmares associated with PTSD: Imagery Rehearsal Therapy, Exposure Relaxation and Rescripting Therapy, Imaging Rescripting and Reprocessing Therapy" (p. 81). Furthermore, the largest study to date designed to evaluate the sequencing of PTSD and sleep treatment was limited by significant attrition (Taylor et al., 2023). Treating nightmares can significantly improve PTSD, depression, and sleep (e.g., Casement & Swanson, 2012; Ho et al., 2016) and evidence-based treatments for PTSD can improve sleep and nightmares (e.g., Belleville et al., 2011, Pruiksma et al., 2023b; Taylor et al., 2020). However, insomnia typically remains (e.g., Pruiksma et al., 2016, 2023b; Taylor et al., 2020) and nightmares may continue (although nightmares tend to be more responsive to trauma-focused treatment than insomnia). There are pros and cons for treating PTSD or sleep first. The benefits of treating PTSD first are that there is more research supporting evidence-based therapies for PTSD than for CBT-N. Many of these therapies also quickly target the trauma(s) directly which may also sufficiently address the sleep problems or may require fewer sleep-focused sessions afterward. The cons of treating PTSD first is that hyperarousal symptoms may interfere with treatment because they can lead to sleep disturbances that can both impede engagement in PTSD treatment and limit the brain's ability to process the memories and emotions during PTSD treatment. The benefits of treating sleep first are that improved sleep may improve memory consolidation, emotion processing, and coping during PTSD treatment, and treating sleep is likely to improve PTSD and depression symptoms. Furthermore, treating sleep can be thought of as a "gateway" to PTSD treatment, allowing the provider and patient to develop rapport prior to focusing directly on the trauma. The costs of treating sleep first are that it delays focus on the trauma-specific intervention, which some consider a form of colluding with avoidance. The availability of PTSD treatment is also a consideration for providers not trained in an evidence-based PTSD treatment. Given the many considerations in deciding on the order of treatments, it is important to review the case formulation and involve the patient in the process of shared decision making.

Discussion

These consensus recommendations by a panel of multidisciplinary experts represent a first step toward greater standardization in nightmare treatment and research. The goal is to present recommendations based on the current research and the expertise of nightmare clinicians and researchers. These recommendations are not intended to signal that other treatment approaches are not useful or viable. These recommendations guided the development of the consensus manual for CBT-N and the corresponding web-based training, wwwcbtnightmares.org. The development of these

Table 5. Recommendations for future directions in nightmare treatment research.

1	Optimal treatment approaches for idiopathic vs trauma-related nightmares
2	How best to approach treatment when nightmares co-occur with insomnia, PTSD, and/or sleep apnea
3	Optimal strategies for training and implementation of CBT-N
4	Optimal strategies for provider engagement in consultation
5	How to modify CBT-N for use in various treatment settings (e.g., inpatient, residential, primary care)
6	Understanding mechanisms of change
7	Examining CBT-N compared to, or in combination with medication
8	Recommendations for the dose of imagery rehearsal practice needed for optimal outcomes
9	Understanding which nightmare to target first when a patient experiences a range of nightmares (i.e., the most distressing, least distressing, or somewhere in between).
10	Efficacy of CBT-N among different cultures and populations (e.g., among individuals with aphantasia)

CBT-N = Cognitive Behavioral Therapy for Nightmares; PTSD = posttraumatic stress disorder.

recommendations points to several important directions for future research. Among the most pressing research gaps are listed in Table 5.

While this work adds value to the field of nightmare research, there are important limitations as well. First, this review did not include all available nightmare treatments protocols such as lucid dreaming, systematic desensitization, or self-management approaches. Second, the panel of experts was not exhaustive and the recommendations may not be shared by all experts on nightmare treatment in the field. Third, recommended treatment elements have not been subjected to a dismantling study so it is unknown whether each component is necessary. Similarly, treatment outcomes of this particular protocol are not known. Fourth, research on the treatment of children and adolescents was not included. Cognitive behavioral approaches are promising for nightmare treatment in these populations but more research is needed (Gieselmann et al., 2019; Gill et al., 2023).

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