Chapter 15
Trauma-Related Nightmares

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Clinical History

Ms. R. was a 42-year-old woman who presented to her primary care physician complaining of frequent episodes of "scary dreams" and feeling exhausted. During these dream episodes, she would wake up with heart palpitations and shortness of breath, and her bedsheets would be soaked with perspiration. Upon awakening, she would rapidly and fully orient to present time and place. These episodes were associated with significant daytime fatigue and anxiety. She was finding it difficult to concentrate at work. Ms. R. reported having scary dreams periodically since childhood and included content such as becoming lost or being unprepared for a task. However, 5 years ago she was raped by an acquaintance which exacerbated the frequency and severity of the dreams. She reported having nightmares three or four times weekly since the time of the rape. The content of her dreams was nearly always the same, with a few changes to the characters and location over time. Generally, the dream involved being in an isolated environment with a man, who was forcing her to engage in sexual acts while she struggled to get free.

On a typical night, Ms. R. took 3 mg of over-the-counter melatonin and went to bed at midnight, after forcing herself to stay awake until she could no longer keep her eyes open. She typically fell asleep within 30 minutes. Around 2:00 a.m., she would awaken from these dreams with panic symptoms (e.g., sweating, racing heart, dizziness). Due to the physiological arousal, it would take 1–2 hours for her to calm down and return to sleep. She would typically smoke a cigarette and watch television to relax. About once a month, she would be unable to return to sleep. She napped for 1–2 hours almost daily, preferring to sleep during daytime hours as she reported rarely having any scary dreams during these naps.

She denied snoring or gasping during the night; however, she could not be certain since she slept alone.

Examination

Ms. R. was cooperative with the examination. Although she was alert and oriented, she appeared tired and reported feeling "exhausted." She displayed no problems with ambulation or gross motor control. Cognitive functions were intact. Speech was of normal rate, logical, and goal directed. She displayed no evidence of a thought disorder or other psychotic processes. Mood was depressed. Affect was generally flat, although she became tearful when discussing her nighttime disturbances. She denied suicidal or homicidal ideation, intent, or plans. Results from a physical examination and urine analysis were unremarkable.

Special Studies

Due to Ms. R.'s daytime fatigue, an ambulatory home sleep apnea test was ordered to rule out the possibility of a sleep-breathing disorder. A week of actigraphy and a daily sleep and nightmare log were ordered to collect approximate sleep-wake patterns. Due to her trauma history and panic symptoms, Ms. R. was referred to a psychologist for a mental health examination, which included the Clinician-Administered Posttraumatic Stress Disorder Scale for the Diagnostic and Statistical Manual of Mental Disorders-5 (CAPS-5; [21]). Ms. R. was also administered a battery of self-report questionnaires to assist with diagnosis and conceptualization, including Trauma-Related Nightmare Survey (TRNS; [15]), Patient Health Questionnaire (PHQ-9; [19]), Fear of Sleep Inventory-Short Form (FOSI-SF; [20]), Pittsburgh Sleep Quality Inventory and Addendum (PSQI; PSQI-A; [14, 17]), Insomnia Severity Index (ISI; [13]), and the Epworth Sleepiness Scale (ESS; [18]).

Results

Results from the home sleep apnea screen identified mild sleep-breathing issues, with an apnea-hypopnea index of three per hour. This result was deemed not clinically significant for active treatment. Additionally, the ESS score was six, within a normal level of daytime sleepiness. Ms. R. wore a wrist actigraph and completed a sleep and nightmare log for 1 week (see Table 15.1). On this log, she recorded five nightmares, across three nights, ranging from moderate to extreme severity. Nightmares occurred on days that she endorsed greater distress before bed. Ms. R.'s time to bed was later when she reported longer naps and earlier on days following nightmares. In addition to nightmares, she reported negatively valenced dreams, which did not cause waking, throughout the week. The actigraphy data generally corroborated her sleep log and showed an increase of wake time and light exposure on nights of a recorded nightmare. Additionally, low daytime activity was observed following the nights of a documented nightmare.

The psychological evaluation revealed that Ms. R. had a history of childhood physical and emotional abuse, in addition to the rape. The rape was identified as her index, or worst, trauma experience. Ms. R. met diagnostic criteria for PTSD, mild severity. Specifically, she reported distressing dreams (Criterion B), avoiding the location of the rape (Criterion C), change in thoughts and exaggerated blame of self since the rape (e.g., I can't trust men; it is my fault – I should have fought harder; Criterion D), and difficulty sleeping and concentrating (Criterion E). She also endorsed mild depression symptoms on the PHQ-9 and clinical insomnia, moderate severity, on the ISI. Data from the other self-report assessments provide additional information for conceptualization. On the TRNS, Ms. R. reported having nightmares during the first half of the night, each rated as extremely disturbing. The content of her nightmares were related to themes of safety, powerlessness, and intimacy. Following a nightmare, she reported smoking a cigarette, watching television until

Table 15.1 One week completed sleep and nightmare log

Daily sleep log

Complete immediately after waking up

Note: Nightmares include negative emotions and *do* cause you to wake up. Dreams *do not* cause you to wake up

	Example	**9/2/15**	**9/3/15**	**9/4/15**	**9/5/15**	**9/6/15**	**9/7/15**	**9/8/15**
In total, how many minutes did you nap or doze yesterday?	0	72	60	45	60	80	65	30
Before going to bed, I thought about nightmare ___ (*Not at all 0–1–2–3–4–5 A lot*)	3	3	5	4	3	4	5	3
Before bed, my general level of distress was ___ (*Not at all 0–1–2–3–4–5 extreme*)	3	2	5	4	4	3	5	3
What time did you get into bed?	2300	2400	0100	2230	2400	0130	0130	2300
What time did you try to go to sleep?	0000	2410	0100	2245	2400	0130	0145	2310
How long did it take you to fall asleep?	60	10	20	30	35	15	40	20

(continued)

Table 15.1 (continued)

Daily sleep log

Complete immediately after waking up

Note: Nightmares include negative emotions and *do* cause you to wake up. Dreams *do not* cause you to wake up

	Example	**9/2/15**	**9/3/15**	**9/4/15**	**9/5/15**	**9/6/15**	**9/7/15**	**9/8/15**
How many times did you wake up, not counting your final awakening?	3	1	2	1	2	1	3	1
In total, how long did these awakenings last?	90	20	120	15	45	20	90	35
What time was your final awakening?	0600	0700	0900	0700	0730	0815	0745	0700
If you woke earlier than your desired final awakening, how many minutes earlier?	30	0	0	0	0	0	0	0
What time did you get out of bed for the day?	0700	0720	0900	0745	0745	0830	0745	0745

How would you rate the quality of your sleep? ☐ Very poor ☐ Poor ☐ Fair ☐ Good ☐ Very good	Poor	Fair	Very poor	Fair	Poor	Poor	Very poor	Fair
Last night, I had ____ (#) nightmares	3	0	2	0	1	0	2	0
My nightmare was ____ severe (*Not at all 0–1–2–3–4–5 extremely*)	3		4		3		5	
Last night, I had ____ (#) dreams	1	0	1	2	1	1	0	1
My emotions in my dream were ___ (*Positive 0–1–2–3–4–5 negative*)	1		3	5	3	4		3
Last night, I took/used ____ to help me sleep. List time	1 beer 2100	Mel	Mel/ Cig	Mel/ Cig	Mel	Mel/ Cig	Mel/ Cig	Mel
Comments								

feeling sleepy, and attempting to fall asleep on her couch. She indicated significant complaints about the quality of her sleep and endorsed night sweats, nighttime nervousness, and anger on the PSQI and PSQI-A. Lastly, consistent with the pre-bedtime distress reported on the sleep log, Ms. R. reported significant fear of sleep on the FOSI-SF, specifically trying to stay alert while in bed, avoiding going to sleep because of bad dreams, and feeling terrified to return to sleep following a nightmare.

Question

Should the PTSD diagnosis or the nightmares be considered the primary concern for treatment?

Differential Diagnosis and Diagnosis

In addition to the PTSD diagnosis, there are several potential sleep-related diagnoses to consider in this case, including a breathing-related sleep disorder, a non-rapid eye movement sleep arousal disorder (sleep terrors), nightmare disorder, REM sleep behavior disorder (RSDB), panic disorder, and insomnia disorder. Due to the minimal level of obstructive apneas and hypopneas found from the home sleep apnea test, a breathing-related sleep disorder was ruled out. Next, a diagnosis of sleep terrors was considered. Sleep terrors fall within the non-rapid eye movement sleep arousal disorders and are characterized by abrupt terror arousal from sleep, with little unresponsiveness to external comfort; however, there is typically no recall of imagery or remembrance of the episode in the morning. In contrast, nightmares are defined as story-like sequences of dream imagery, which incite dysphoric emotions. Upon complete awakening, they are well remembered and can be described in detail [12, 16].

Ms. R. recalls the episode and content of the dream and is awakened by them; therefore, her experience more closely resembles nightmares than a sleep terror. Since nightmares are a symptom of PTSD, nightmare disorder should only be considered if the nightmares preceded the onset of the PTSD diagnosis or remain following the resolution of other PTSD symptoms, and their frequency necessitates independent clinical attention [12]. In the present case, while Ms. R. experienced nightmares in childhood, it is difficult to ascertain whether they were associated with a PTSD diagnosis at that time. Therefore, Ms. R. was not diagnosed with a separate nightmare disorder diagnosis. Yet, clinical attention to the nightmares remained warranted due to the frequency and severity of the nightmares, the subsequent daytime dysfunction, and, to address her primary complaint, even in the presence of other PTSD symptoms.

REM sleep behavior disorder (RSBD) was also considered. RSBD is characterized by vocalization and/or complex motor behaviors during REM sleep, most frequently in the later portions of night, and upon awakening the individual is fully alert and oriented. RSBD tends to occur in older males; the onset is not typically associated with trauma and is associated with underlying neurodegenerative disorders and some psychotropic medications. Ms. R. did not report any nighttime injuries, and actigraphy data did not indicate a high level of wake bouts. Due to the low prevalence rate and lack of evidence of other diagnostic features, RSBD was ruled out. Ms. R.'s nightmares were associated with panic attack symptoms; however, panic disorder was also ruled out because she denied experiencing unexpected or daytime panic attacks. Lastly, while Ms. R. reported significant dissatisfaction with sleep quality and quantity, a separate insomnia disorder diagnosis was not assigned because her difficulties initiating and maintaining sleep are adequately explained by fear of sleep and the nightmare occurrences.

The final diagnosis was PTSD.

General Remarks

Trauma-related nightmares are characterized as chronic, distressing dreams following a traumatic event that cause nocturnal waking, with recall of dream narrative [7]. The prevalence rate of nightmares in trauma survivors varies considerably across studies, ranging from 19% to 96% [5, 6], due to differences in definitions, measurement tools, and PTSD diagnostic status of samples. Nighttime hyperarousal is particularly associated with trauma-related nightmares, in that individuals with nightmares have more nocturnal awakenings and reduced slow wave sleep, suggesting a more alert brain [9]. While non-trauma-related nightmares tend to occur in the latter half of the sleep cycle, there is some evidence that trauma-related nightmares may occur in the first part of the sleep cycle [8]. Preliminary data also suggests that nightmare reports are significantly related to decreased parasympathetic activity [10].

It is important to illustrate from the above discussion that while Ms. R. met criteria for PTSD, clinical attention to nightmares is warranted due to the frequency and associated impairment of the nightmares and to address her primary complaint. Attention only to PTSD broadly may underemphasize the prominence of the nightmares and associated nocturnal and daytime symptoms, limiting the opportunity for targeted intervention. Additionally, research demonstrates that nightmares and insomnia symptoms often do not respond adequately to PTSD-focused treatments, despite improvements in other symptom domains [3, 11]. In contrast, treating nightmares and sleep problems may reduce symptoms of PTSD and depression [2]. The assessment approach discussed for this case illustrates the importance of identifying factors that contribute to and maintain the nightmares. For example, it is common for individuals presenting with trauma-related nightmares to have a fear of the dark or sleep, attempt to recoup the sleep loss by napping during the day, and use avoidance or other unhelpful coping strategies to

gain some control over a seemingly uncontrollable situation. The nightmare content does not have to closely resemble the event but may include themes related to the actual traumatic events the individual experienced. Nightmare content that more closely resembles the traumatic event is frequently reported as more distressing than less similar nightmare content. Tracking via the sleep and nightmare log can also aid in conceptualization and highlight patterns for the individual. In this case, daytime distress and anticipatory anxiety prior to bedtime was associated with the likelihood of experiencing a nightmare and, consequently, the following day and night schedules were impacted. These patterns suggest that Ms. R. was stuck in a negative perpetuating cycle.

In addition to determining an accurate diagnosis, this assessment approach also supports treatment planning for targeting the primary complaint. Cognitive-behavioral therapies for nightmares (CBT-N) are available and have evidence for reducing nightmare frequency and severity, as well as improving depression and PTSD symptoms [4]. Exposure, relaxation, and rescripting therapy (ERRT; [1]) is a CBT-N specifically targeting trauma-related nightmares. This treatment targets the perpetuating factors identified in the assessment process through psychoeducation, modification of sleep habits and stimulus control, relaxation techniques, and nightmare exposure and thematic rescripting.

Psychoeducation, which provides rationale for the treatment and the theories behind the nightmare cycle, is thought to directly target anticipatory anxiety both with regard to treatment expectations and provide corrective information regarding what factors are involved in the probability of having a nightmare. Indirectly, psychoeducation works with other components, particularly sleep behavior modification, to address maladaptive sleep habits by educating the client about bedtime routines that may increase chances of disrupted sleep and/or nightmares. The behavioral and environmental changes that occur with sleep habit modification not only encourage new behaviors to facilitate sleep but also

indirectly challenge unhelpful beliefs about one's sense of control over sleep. The component of stimulus control is also used to address the amount of time one spends in bed while not sleeping and aids in the re-conditioning of the bed to associate it only with sleep, as opposed to nightmare experiences and other conditioned hyperarousal. ERRT also includes progressive muscle relaxation and diaphragmatic breathing, which are common relaxation techniques aimed at reducing and controlling physiological arousal. The use of these relaxation techniques immediately before sleep is also aimed at decreasing the cognitive and physiological arousal associated with fear of sleep and sleep-related anticipatory anxiety. The combination of these techniques directly targets the daytime distress and arousal factors of the nightmare cycle. Finally, the exposure component of ERRT involves having the client provide a written and oral account of his or her nightmare content. It is thought that exposure helps to identify unresolved, trauma-related emotional content and themes manifested in nightmares. The exposure also serves to activate the fear network while simultaneously increasing a sense of mastery through confrontation of the nightmare content. The act of rescripting, or changing of the nightmare content based on the identified themes, serves as the presentation of new, fear-incongruent information. Together, the exposure and rescripting components target the fear network and provide a mechanism by which to reduce the fear associated with the content. Additionally, the nightly rehearsal of the changed content can disrupt the association between fear and the nightmare content, offering the client a more adaptive appraisal of the meaning of his or her nightmare(s).

Overall, by targeting the individual's primary complaint first, the experience of symptom reduction may motivate the individual for additional treatment, as needed. Additionally, improvements in sleep quality and quantity may also increase an individual's ability to regulate emotions and to feel more equipped when facing daytime stress. It is also thought that consolidated sleep may be helpful to facilitate extinction learning, which could be particularly helpful for individuals

receiving PTSD-focused treatment after working on their nightmares. The clinical advantage of targeting nightmares prior to or following PTSD-focused interventions is currently under investigation.

Pearls and Take-Home Points

- Sleep disturbances, including recurrent nightmares, following trauma exposure are considered hallmark symptoms of PTSD [8] and may significantly contribute to the development and maintenance of PTSD.
- Focusing solely on the PTSD diagnosis may ignore the prominence and associated functional impairment of nightmares in the complete clinical picture.
- A comprehensive assessment approach of trauma-related nightmares should be the first step in developing an appropriate treatment plan. Although there are similarities in presentations, individuals with trauma-related nightmares vary in their coping skills, resources, trauma histories, and other physical or psychopathological difficulties that impact the conceptualization of the problem. Factors identified as contributing to the maintenance of the nightmare cycle can then be targeted in treatment.
- Due to the pernicious nature of trauma-related nightmares, targeted interventions may be necessary. For some individuals, targeting PTSD symptoms as a whole may not be enough to eradicate the nightmares. There is growing evidence that brief psychotherapeutic approaches for nightmares can mitigate both the frequency of the nightmare occurrences and the associated distress. For example, ERRT is a three- to five-session manualized protocol that can be provided in individual or group format. The treatment is typically conducted once per week over 3–5 weeks, and sessions run approximately 1 hour each.

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