Treatment of Nightmares Related to Post-Traumatic Stress Disorder in an Adolescent Rape Victim

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Abstract: Nightmares are a common response to a traumatic event and are one symptom of posttraumatic stress disorder. Although several treatments are currently available for the treatment of posttraumatic stress disorder, few studies report the efficacy of such treatments for nightmares. The current case involves the treatment of an adolescent rape victim who was involved in a treatment that targeted posttraumatic stress disorder and panic attacks. Following this treatment, the adolescent continued to report the experience of nightmares several times per week. The adolescent was then treated with a three-session cognitive behavioral treatment package involving relaxation procedures, exposure to the nightmare content, and rescripting the nightmare. At the one-month and three-month follow-up sessions, the patient reported a decrease in the intensity and frequency of nightmares. In this case it appeared necessary to include exposure and to target salient trauma-related themes in the rescripted dream.

Keywords: nightmares; posttraumatic stress disorder; treatment; exposure

1 THEORETICAL AND RESEARCH BASIS

Nightmares have been related to a variety of factors, including stress, medications, trauma, and substance use (Blanes, Burgess, Marks, & Gill, 1993). According to a survey of more than 1,000 households, 5% of the respondents reported currently experiencing nightmares and 11% reported either a current or past problem (Bixler, Kales, Soldatos, Kales, & Healey, 1979). Little is known, however, about the prevalence of nightmares associated with specific etiology or about potential differential treatment implications

AUTHORS' NOTE: The treatment described in this article was conducted by the first author while she was an National Institute of Mental Health–funded postdoctoral fellow at the National Crime Victims Research and Treatment Center, Charleston, South Carolina.

CLINICAL CASE STUDIES, Vol. 2 No. 4, October 2003 283-294
DOI: 10.1177/1534650103256289

for nightmares with various underlying psychological and physiological mechanisms. Experiencing a traumatic event may initiate or exacerbate the occurrence of nightmares (Blanes et al., 1993). Indeed, nightmares are considered a hallmark of post-traumatic stress disorder (PTSD) and are frequently reported by individuals with PTSD (Ross, Ball, Sullivan, & Caroff, 1989; Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992). The increased variability in heart rate and respiratory rate that often accompanies nightmares is consistent with the physiological arousal to cues seen in PTSD as well as with the physiological arousal symptoms of panic attacks (Craske & Barlow, 1989). These responses, along with dream content associated with a traumatic event, may also serve as trauma cues that further heighten the level of arousal and distress in individuals with PTSD. Furthermore, nightmares may cause considerable sleep disruption, which could lead to increased distress during the day, potentially increasing the opportunity for more nightmares and disruption in functioning.

Presently, there is a growing literature about PTSD-related nightmares. Much of this literature stems from studies of combat veterans. Findings suggest that, in general, individuals with PTSD report nightmares more frequently than do individuals without PTSD (Inman, Silver, & Doghramji, 1990; Mellman, Kulick-Bell, Ashlock, & Nolan, 1995; Neylan et al., 1998). Results of a reanalysis of the National Vietnam Veterans Readjustment Study indicated that frequent nightmares were reported only by individuals with PTSD. Regression analyses predicting frequency of nightmares revealed that combat exposure and nonsleep-related PTSD symptoms accounted for 57% of the variance in the frequency of nightmares (Neylan et al., 1998).

Research suggests that posttraumatic nightmares differ from typical nightmares. For example, posttraumatic nightmares are characterized by content that is associated with the original traumatic event, often experienced as an exact replaying of the original event, whereas typical nightmares may include distortions and unrealistic content (Schreuder, Kleijn, & Rooijmans, 1999). Prevalence rates for nightmares that contain trauma-specific content vary widely (Esposito, Benitez, Barza, & Mellman, 1999; Mellman et al., 1995; Schreuder et al., 1999; Schreuder, van Egmond, Kleijn, & Visser, 1998; van der Kolk, Blitz, Burr, Sherry, & Hartmann, 1984). However, some findings suggest that individuals with PTSD are more likely to report trauma-specific nightmare content than are individuals without PTSD (van der Kolk et al., 1984). Posttraumatic nightmares also have been related to the overall level of reported distress (Erman, 1987). Other findings suggest an association between the similarity of a nightmare to the actual event and the overall severity of reexperiencing symptoms (Esposito et al., 1999; Schreuder et al., 1999). Although our knowledge of the characteristics of PTSD-related nightmares is growing, relatively little information is available as to the treatment of them. For example, it is unclear if treatments developed for general nightmares may be effective in treating PTSD-related nightmares.

The effectiveness of cognitive-behavioral treatments for non-PTSD-related nightmares has been examined in numerous case studies and several controlled studies (e.g., Cellucci & Lawrence, 1978; Neidhardt, Krakow, Kellner, & Pathak, 1992). However,

few studies of PTSD-specific nightmares have been conducted. An exception is a recent study (Krakow, Hollifield, et al., 2000) that examined a group treatment for nightmares in women with the following criteria: (a) PTSD or PTSD symptoms and a criterion-A event, (b) nightmares at least once per week for more than 6 months, and (c) insomnia. The protocol consisted of two 3-hour sessions, 1 week apart, followed by a 1-hour session 3 weeks later. In the initial session, participants are taught about the relationship between nightmares and insomnia and are given facts about nightmares, and they learn pleasant imagery exercises and cognitive-behavioral techniques for coping with unpleasant images. The second session consists of learning imagery rehearsal techniques, writing the nightmare, and writing and rehearsing a changed version of the nightmare. Participants are instructed to rehearse the changed dream 5 to 20 minutes per day. At the third session, participants share experiences and progress. Results of the study suggest that the treatment was effective in reducing the frequency of nightmares and PTSD severity and increasing global sleep quality.

A question not yet addressed scientifically is whether a specific treatment is necessary for PTSD-related nightmares or if treatments targeting general PTSD symptoms may be effective in reducing the frequency and severity of PTSD-related nightmares and the high level of arousal reported by those suffering from these nightmares. In general, cognitive-behavioral treatments for PTSD are hypothesized to work by exposure to the feared memory of the traumatic event or by exposure through cognitive or behavioral channels to cues (i.e., places, situations, smells, sounds) that are not in and of themselves dangerous but became associated with fear at the time of a traumatic event. During the course of these treatments, the patient initially experiences a high level of physiological arousal, which, with successful treatment, decreases over the course of repeated sessions. It has been suggested previously that for clients who suffer high levels of arousal or panic attacks, exposure treatments may be overwhelming or lead to a higher than optimal level of arousal, because these clients may have difficulty with simultaneous exposure to both physiological and cognitive cues (Resnick & Newton, 1992). This also may be true for individuals who suffer frequent posttraumatic nightmares and subsequently fear sleeping and experience high levels of daytime arousal due to lack of sleep and memories of the nightmares.

The study conducted by Krakow and colleagues (2000) suggested that cognitive behavioral techniques may be effective in decreasing PTSD symptoms and PTSD-related nightmares. A growing body of literature suggests that a number of treatments are effective in the reduction of PTSD symptoms in general; however, these studies typically do not report specifically if the treatments were effective in terms of significant reduction of nightmares in particular. It is conceivable that PTSD treatments; including exposure and cognitive restructuring components could successfully reduce the frequency and intensity of nightmares; however, few treatment studies address this issue (Krakow, Hollifield, et al., 2000; Krakow, Lowry, et al., 2000). It is unknown at this time if PTSD treatments may benefit from the addition of a specific component targeting nightmares.

2 CASE PRESENTATION: THE CASE OF ANNE

In this article, we present a description of the treatment of trauma-related nightmares following the successful treatment of other PTSD and panic symptoms in an adolescent female rape victim using a new treatment developed to target both PTSD and panic attacks: Multiple Channel Exposure Therapy (MCET) (Falsetti & Resnick, 2000). MCET is unique in that it provides exposure to physiological arousal symptoms prior to trauma-specific cognitive and behavioral exposure. This exposure is hypothesized to decrease fear of physiological arousal symptoms experienced by individuals with comorbid panic attacks and PTSD: When exposure to traumatic memories and cues is subsequently conducted, clients may then be less fearful of physiological reactions. MCET was successful in this case in reducing the frequency and severity of PTSD symptoms, panic attacks, and depressive symptoms. However, following the basic treatment, the patient continued to experience trauma-related nightmares. At that point, introduction of an exposure-based treatment focused specifically on her nightmares was implemented and symptoms were evaluated.

3 PRESENTING COMPLAINTS

Anne is a 16-year-old African American girl who reported that she was raped repeatedly by an acquaintance over the course of several weeks approximately 2 years prior to presenting for treatment. Anne presented to the outpatient clinic with symptoms of anxiety, depression, panic attacks, social isolation, recurrent traumatic nightmares, and irritability. Anne believed that her distress was directly related to the rapes.

4 HISTORY

Anne reported that when she was 14 years old, a young single man moved into the house next door to her family. The sexual abuse began soon after he moved in and started with the neighbor exposing himself to her, fondling her, and then quickly progressed to rape. Anne reported that the neighbor made her believe the abuse was her fault and threatened that he would kill her if she told anyone. Physical force was used during the abuse and included restraining her, pulling her hair, and slapping her. Anne feared that he would seriously hurt her during several of the rapes and believed that he would hurt her if she told anyone. The abuse ended after several months when the neighbor relocated to another city for his job.

During the intake interview, Anne reported that she had been afraid to tell her mother about the assaults by the neighbor because she felt guilty, embarrassed, and believed her mother would be angry with her. When she did disclose to her mother, 2 years after the rapes, her mother brought her into the clinic. Anne reported experienc-

ing significant anxiety that has become progressively worse since the abuse began. She reported nightmares about the abuse and the perpetrator almost every night and would awaken from these nightmares in the midst of a panic attack. Sleep disturbance became a great problem as she became afraid to fall asleep for fear of having a nightmare, and when she had one, she would be unable to return to sleep for hours. During the day she had flashbacks of the abuse incidents. Specifically, she would relive incidents in which the perpetrator would yell at her to perform certain acts, call her a "bitch," and warn her not to tell anyone.

Anne reported increasing difficulties being around men, including classmates and teachers. She reported experiencing significant anxiety that often developed into feelings of intense fear and various physiological symptoms, including sweating, trembling, shortness of breath, nausea, chest pains, and other physiological symptoms (i.e., sufficient to meet criteria of a panic attack) if a man approached her or tried to talk to her. She also began having panic attacks even when men were not around. She was afraid that others would treat her differently because of the rape and felt increasingly distant from other people, including her family. Anne also reported increasing depression during and following the abuse.

Anne missed numerous days of school because of depression and anxiety. She reported significant difficulty concentrating on schoolwork or focusing on any specific task. She was too tired in the evenings and on weekends to try to catch up on her schoolwork and was subsequently failing several courses. She was unable to articulate plans for the future, including whether she planned to finish school or what her plans were following school.

5 ASSESSMENT

The initial part of the assessment involved a clinical interview in which demographic and background information were gathered and Anne described the trauma and her responses. A structured clinical interview and several self-report measures were used to determine Anne's diagnosis. She was administered the PTSD, panic disorder, and mood disorders portions of the Structured Clinical Interview for *DSM-IV* (First, Spitzer, Gibbon, & Williams, 1995). Results from the interview indicated that she met criteria for PTSD (chronic), panic disorder without agoraphobia, and major depressive disorder (recurrent, moderate). An assessment of previous traumatic events was conducted using the Trauma Assessment for Adults (Resnick, Best, Kilpatrick, Freedy, & Falsetti, 1993). In addition to the sexual assault incidents, Anne reported witnessing domestic violence between her parents.

An additional assessment was conducted following the initial treatment and focused on the nightmares. One week prior to and throughout the nightmare treatment, Anne completed the Daily Sleep Activities Log (Thompson, Hamilton, &West, 1995) (see Table 1 for scores).

TABLE 1
Means of Select Variables From the Daily Sleep Activities Log

Dependent Variable	*Treatment Session 1*	*Treatment Session 2*	*Treatment Session 3*	*Booster Session 1*	*Booster Session 2*
Number of hours slept	4	5.5	4	7	8
Depression[a]	4.29	4.57	4.14	1.43	1.29
Felt rested[a]	1.86	1.57	1.43	4.43	4.14
Number of nightmares	1	1.14	1	0	0
Disturbance of nightmares[a]	5	4.86	5	0	0

a. Rated on following scale: 1 = *not at all*, 2 = *mildly*, 3 = *moderately*, 4 = *very*, 5 = *extremely*.

6 CASE CONCEPTUALIZATION

Many factors may have increased Anne's vulnerability to fears, anxiety, panic, and posttraumatic stress. As a young child, Anne witnessed severely violent acts between her mother and father. She also suffered from the influence of her father's alcoholism on the family. After her father left, the family continued to struggle financially. They were socially isolated and did not have access to resources in the community. Anne also witnessed significant violence in her community. Her neighborhood was in the middle of the "drug district," and her older brother had become involved in a gang and subsequently began using and dealing drugs.

For years, Anne tried to cope on her own with the assault. At the time she began treatment, only her mother knew what had happened. Anne's mother was very supportive but had difficulty coping with what happened in part because she was also raped by a family member as a teenager and had never received treatment. Overall, when she started treatment, Anne was a strong individual who was overwhelmed by a variety of stressors. Lack of social support combined with financial strains on the family exacerbated Anne's difficulties. Although Anne was successful in completing the treatment for PTSD and panic attacks, she remained very frightened that the perpetrator would return to hurt her for telling her mother and the police. She continued to experience feelings of powerlessness and believed that she would be unable to fight back if he were to try to hurt her again. It is believed that these fears served to maintain the nighttime trauma intrusions. Although she was much higher functioning after the PTSD and panic treatment, she was still at a higher level of arousal and distress than normal due to the nightmares and subsequently was vulnerable to further psychological difficulties.

7 COURSE OF TREATMENT AND ASSESSMENT OF PROGRESS

MCET (Falsetti, 1997; Falsetti & Resnick, 2000) was the chosen therapy because it involved components that target PTSD and panic attacks. Similar to other cognitive-behavioral treatments for PTSD, MCET is based on learning and information process-

ing theories, as described previously. MCET is a 12-week manualized treatment that combines components of cognitive processing therapy (Resick & Schnicke, 1993), panic control treatment (Barlow & Craske, 1988), and stress inoculation training (Kilpatrick, Veronen, & Resick, 1982), and it has components unique to MCET. Falsetti, Resnick, Dansky, Lydiard, and Kilpatrick (1995) conceptualized the panic response in people who have experienced a traumatic event not as a false alarm, as in Barlow's model of panic, but as a normal response to a traumatic event. Stimuli associated with the traumatic event (e.g., sounds, smells) may become conditioned to elicit the panic response as well as arousal, reexperiencing, and avoidance symptoms of PTSD.

MCET is designed to reduce the physiological, cognitive, and behavioral symptoms associated with trauma through psychoeducation, cognitive restructuring, and exposure techniques. The education component includes the provision of information about trauma in general and the impact of trauma in terms of PTSD and panic symptoms and cognitions. Cognitive restructuring involves identifying and challenging distorted thoughts related to the trauma. Finally, the exposure component includes exposure to physiological symptoms, to the trauma (i.e., through writing assignments) and in vivo exposure to trauma-related conditioned stimuli that the individual avoids.

Following Anne's completion of the 12-week MCET protocol, a reassessment was conducted to determine further need for treatment. At that time, Anne denied symptoms of PTSD or panic attacks except immediately following the traumatic nightmares. Her frequency of nightmares was approximately four times per week. She reported that she was no longer upset the day following the nightmare, because she was able to use the coping strategies and cognitive restructuring she learned through the MCET treatment. She also used the breathing retraining techniques taught during MCET and subsequently had decreased the time needed to return to sleep from 2 to 3 hours to less than 1 hour.

Prior to initiating any treatment for the nightmares, the therapist conducted a literature search to find information regarding effective treatments for traumatic nightmares. The little information that was available is presented in the introduction of this article. We based our treatment on an imagery rehearsal treatment (Krakow et al., 1996; Thompson, Hamilton, & West, 1995), which uses cognitive restructuring of dream content and relaxation procedures. Three sessions focused on the nightmare treatment were conducted, followed by 1-month and 3-month booster sessions. For this case, the first session of the treatment involved education regarding nightmares and their impact on daily functioning. Relaxation procedures learned during MCET were reviewed. For homework, Anne was asked to write down her recurring nightmare, monitor her nightmares and sleep using the Daily Sleep Activities Log, and practice relaxation procedures every night before she went to sleep. At the following session, Anne read the record of her nightmare aloud. Her traumatic nightmare involved the perpetrator entering her room, forcing her to undress and perform sexual acts, verbally abusing and degrading her, then leaving as if nothing happened. We then discussed altering the dream, and she wrote out a changed dream scenario and read it aloud. Her altered dream included the perpetrator

entering the room, she tells him to leave, and he does. For homework, Anne was instructed to imagine the changed dream each night and then engage in relaxation procedures prior to going to sleep. The third session involved reviewing the homework assignment, assessing the frequency and severity of Anne's nightmares, reviewing problem-solving complications (see the Complicating Factors section), and scheduling two booster sessions.

8 COMPLICATING FACTORS

At the third session, Anne reported no decrease in the frequency or intensity of nightmares. She reported engaging in the homework as prescribed; however, upon further inquiry, Anne reported that she had altered her changed dream so that it was completely unrelated to the original traumatic dream, instead imagining a pleasant scene. She reported doing this because she "didn't want to think about him [the perpetrator] at all." The therapist explained the necessity of engaging the fear network for the procedure to work, as with the exposure procedures conducted during MCET. We again reviewed her altered dream, and Anne opted to change it so that she was more active in the dream felt more powerful, and felt greater support. In the final changed dream, the perpetrator enters her room and tells her what he wants her to do and she forces him out of her room and out of the house. A crowd of people is standing outside the house and chase him down the street calling him a rapist, then return to comfort and congratulate Anne.

9 MANAGED CARE CONSIDERATIONS

There were no managed care issues involved in this case.

10 FOLLOW-UP

Anne was seen for a 1-month and a 3-month follow-up session. At the 1-month session, she reported having two dreams in that month that involved the perpetrator but reported that the dreams were "not scary" and that she was able to sleep through the night and was not distressed the following day. At the 3-month follow-up, she reported having one dream that involved the perpetrator but, again, was not distressed by the dream. Several issues were discussed in the two booster sessions to help Anne maintain treatment gains and plan for potential future obstacles. Various potential risk factors were identified that might lead to a resurgence of Anne's symptoms, including revictimization, life stressors, and becoming involved in relationships. Anne engaged in appropriate problem solving in the session related to these potential difficulties and appeared to have gained suffi-

cient self-confidence and assertiveness to identify and use community resources if necessary.

11 TREATMENT IMPLICATIONS OF THE CASE

MCET was quite effective in reducing the frequency and intensity of the patient's panic attacks and PTSD symptoms. Indeed, given the patient's significant fear of her panic and PTSD arousal symptoms, it is likely that MCET was particularly effective because it incorporates exposure to physiological symptoms before exposure to the trauma-related material. In addition, MCET has been used only with adults in the past but was used successfully with this adolescent client.

Following treatment of the PTSD and panic attacks, however, the client continued to have difficulties with trauma-related nightmares. Thus, contrary to expectations, it appeared that in this case study in which the patient struggled with chronic PTSD and panic, the reduction of daytime symptoms and overall arousal did not affect nightmares and nightmare-related panic. The patient reported continued trauma-related nightmares and subsequent panic attacks upon wakening. Although she reported coping with the panic more effectively by using skills learned through MCET, she continued to suffer sleep disturbance and fear of going to sleep. It is possible that the underlying physiological or psychological mechanisms responsible for reexperiencing in the form of nightmares differ from other forms of intrusive symptoms. Further investigation is needed into the specific mechanisms underlying PTSD-related nightmares. Treatments aimed at reducing PTSD symptoms also need to be examined more closely in terms of their efficacy to reduce PTSD-related nightmares. Nightmare treatment may be a desirable adjunctive treatment, at least for those individuals reporting significant problems with nightmares.

The nightmare treatment used in this study was very effective, however, at least in this case it seems necessary to have the changed dream directly involve components of the original nightmare. Conducting exposure through writing out the original nightmare and reading it in session was not enough. When the patient continued to avoid the trauma-specific content of her changed dream and focus instead on pleasant imagery, it was not effective in reducing the nightmares or the intensity of her response to them. So, it appears that the process of exposure to the original nightmare may have been an important component initially and as a part of the changed dream.

In this case it also appeared important for the client to incorporate into the changed dream the most significant cognitive "stuck points" (Resick & Schnicke, 1993)or distortions that she had struggled with during PTSD and panic treatment. For Anne, these distortions included issues of regaining control and power, as well as social support and validation. For those individuals who suffer trauma-related nightmares, identifying cognitive distortions as represented in the nightmares and targeting these in the changed dream may be necessary components. Once Anne had incorporated those

themes into her dream, she reported reduced nightmares, reduced arousal to dreams in which the perpetrator was present, and a sense of self-efficacy over something that had been "uncontrollable" for so long.

12 RECOMMENDATIONS TO CLINICIANS AND STUDENTS

This case study suggests that treatment used to alleviate nightmares may be effective for PTSD-related nightmares. The treatment was implemented following the course of treatment targeting PTSD and panic attacks. It is unknown if the treatment would have been effective if conducted during the course of MCET. It is possible that incorporating the nightmare treatment earlier may have even expedited the process of therapy. These are issues that remain to be investigated.

It seems important that clinicians assess for nightmares if a client presents with a trauma history, even if the client does not meet criteria for PTSD. Given the impact of nightmares on overall levels of arousal and daytime distress, it is important for clinicians to monitor nightmares during trauma-focused treatment. It is possible that implementing nightmare treatment early in therapy helps reduce the client's overall level of distress, decrease drop-out rates, and potentially increase treatment compliance. Further, if this three-session treatment provides significant reduction in nighttime and daytime levels of distress, it may prove to be quite cost-effective.

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