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Highlights…

Our page 1 leads this week look at how to use DBT to handle unwanted emotions, and how to treat sleep problems with Prazosin in youth with PTSD.

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OCD/Anxiety

Be curious, not judgmental: A DBT emotion regulation handout for changing unwanted emotions

Sarah A. McHugh, Ph.D. & Andrea L. Gold, Ph.D.

Dialectical behavior therapy (DBT) and its adaptation for adolescents (DBT-A) provide evidence-based tools for individuals with chronic emotion dysregulation and their families (Linehan, 2015; Miller et al., 2007). Teens with emotion dysregulation struggle to understand, label, and accept their emotions; they are frequently unable to modulate the intensity of their emotions to match the goals of the present context. No matter how much emotionally-dysregulated teens and their families may wish it were so, emotion regulation does not include getting rid of emotions. Why not? We need emotions for survival, as emotions serve essential functions: to motivate us for action and to communicate to ourselves and others. Rather than eliminating emotions, emotion regulation aims to help individuals understand their own emotions, decrease emotional vulnerability and suffering, and change unwanted emotions. This article presents "Check the Facts," a DBT skill for helping individuals with emotion dysregulation effectively change unwanted emotions. We share a handout that we adapted from DBT with step-by-step

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Sleep

Prazosin Treatment of Sleep Problems in Youth with PTSD

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Post traumatic stress disorder (PTSD) is a condition characterized by reexperiencing symptoms, persistent avoidance, negative alterations in cognition and mood, and changes in arousal and reactivity in response to a traumatic event (American Psychiatric Association, 2013). The pathophysiology of PTSD is not fully understood but likely related to dysregulation of fear-processing. Currently, the gold standard of treatment is trauma-focused cognitive behavioral therapy (TF-CBT). SSRIs are the only FDA-approved pharmacologic treatments for PTSD in adults and there are no FDA approved medications to treat pediatric PTSD. Unlike studies in adults, double-blinded randomized control trials (RCTs) did not show any efficacy for SSRIs in pediatric patients diagnosed with PTSD (Hudson et al., 2021). While estimates of pediatric PTSD prevalence varies, the prevalence of PTSD at age 18 is 7.8% (Rolling et al., 2023). Sleep disturbances such as insomnia, night-time awakenings, and nightmares often persist despite treatment with TF-CBT or SSRIs. Left untreated, sleep disturbances are predictive of PTSD persistence and comorbid psychiatric complications (Rolling et al., 2023). There is evidence supporting the use

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cyclical worsening in anxiety, mood symptoms, and suicidal ideation, and exploring dialectical behavior therapy as a potential treatment for those with menstrual cycle-linked symptom changes. She can be reached at sarah_mchugh@brown.edu. **Andrea Gold**, Ph.D. (she/her) is a clinical assistant professor in the Department of Psychiatry and Human Behavior, Warren Alpert Medical School of Brown University, and a staff psychologist at the Pediatric Anxiety Research Center (PARC) at Bradley Hospital. At PARC, Dr. Gold is the Team Leader for the DBT-X Track, where she is developing an adaptation of dialectical behavior therapy (DBT) targeting exposure for adolescents with OCD/anxiety disorders co-occurring with emotion dysregulation, suicidal and non-suicidal self-injurious (NSSI) behaviors, and borderline personality disorder (BPD) traits. Dr. Gold is also on the board of directors for the National Education Alliance for Borderline Personality Disorder (NEABPD) and executive editorial team of the DBT Bulletin. She can be reached at andrea_gold@brown.edu

Sleep

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of the medication prazosin in alleviating pediatric PTSD sleep disturbances including nightmares and insomnia. Anywhere from 20–80% of children with PTSD report nightmares compared to a prevalence of 10–20% in the general pediatric population (Kovachy et al., 2013). There is a growing need for pharmacologic therapy given the paucity of providers trained in TF-CBT and a need for symptomatic management. In this review, we will examine sleep disturbances in pediatric PTSD patients and discuss the feasibility of prazosin as an adjunct treatment option.

In 2010, the American Academy of Sleep Medicine recommended two treatment modalities with their highest-level A rating for the treatment of PTSD-nightmares in adults. The first was a cognitive behavioral technique known as image rehearsal therapy (IRT) (Morgenthaler et al., 2018). The second was prazosin—an alpha-adrenergic antagonist. A 2015 comparative metanalysis found that there was a statistically significant effect size of both treatments for nightmares, sleep quality, and posttraumatic stress symptoms in adults (Seda et al., 2015). However, accessibility of IRT and a dearth of clinicians trained in this modality present significant obstacles to care. Pharmacologic treatment can address this access issue. Prazosin is an alpha-1-adrenergic antagonist that may alleviate PTSD-related sleep symptoms by acting on the prefrontal cortex, hippocampus, and amygdala (Akinsanya et al., 2017). While nightmares fall under the category of reexperiencing symptoms, insomnia is often secondary to increased autonomic arousal. As an adrenergic antagonist, prazosin blocks the fight-or-flight response that mediates some of the reexperiencing and hypervigilant sleep symptoms prevalent in PTSD. While alternate adrenergic agents like clonidine, guanfacine, and propranolol have been trialed to relieve autonomic symptoms associated with PTSD in pediatric patients, none have been more widely studied than prazosin (Morgenthaler et al., 2018).

Understanding the relationship between PTSD and sleep is useful in elucidating potential treatment options. Sleep symptoms are often some of the earliest symptoms to emerge in PTSD (Rolling et al., 2023). Even after PTSD treatment, sleep disturbances can, and often do, persist for patients at clinically significant levels (Seda et al., 2015). The amygdala, insula, and hippocampus are key structures involved in the neural circuitry underlying sleep regulation. Disruption in these circuits is thought to be implicated in the sleep architecture changes that characterize PTSD. Some PTSD-associated sleep architecture changes include more fragmented and less restorative sleep (Ressler et al., 2022). Several pediatric PTSD studies incorporate the Child Post Traumatic Stress Reaction Index (CPTS-RI) into their methodology. There is sometimes discordance between subjective measures, like this questionnaire and sleep diaries, and more objective measures like polysomnography and actigraphy. Polysomnography and actigraphy results were significant for increased fragmentation of sleep in children with PTSD compared to age-matched controls (Rolling et al., 2023). Incorporating objective sleep measures as part of the research process is not always feasible due to cost, requiring a controlled environment, or population dynamics, however (Kovachy et al., 2013). Despite these limitations, studies consistently show an appreciable difference in sleep disturbances between patients with PTSD and those without PTSD.

Patients with PTSD experience an increased incidence of trauma-related nightmares and sleep disturbances. Untreated sleep disturbances may play a role in PTSD maintenance and may predispose patients to the development of comorbid psychiatric conditions like anxiety or depression (Kovachy et al., 2013). Sleep disturbances in adolescents are also associated with a decreased response rate to the current gold standard of treatment (TF-CBT) (Rolling et al., 2023). A 2023 prospective case-control study investigated whether sleep disturbances were correlated with PTSD severity and comorbidities (Rolling et al., 2023). This study enrolled 11 participants between the ages of 3 and 18 with PTSD-associated sleep disturbances and matched them with an age and sex-matched control group to evaluate PTSD and sleep. Children with PTSD had statistically significant increased number of sleep stage changes along with increased fragmented sleep (Rolling et al., 2023).

Several studies have found evidence supporting prazosin's use in alleviating sleep disturbance symptoms. A 2017 systematic review found six case reports showing improvement in PTSD-nightmares with the use of prazosin with doses ranging from 1 mg-4 mg daily (Akinsanya et al., 2017). Rebound in nightmare frequency occurred after stopping the medication in three of the six case reports. An important consideration is that in two case reports, patients continued receiving cognitive behavioral therapy in addition to prazosin. A 2017 chart review of 34 pediatric patients with PTSD found improvement in PTSD-associated nightmares with doses ranging from 1–15 mg daily at bedtime (Keeshin et al., 2017). Notably, patients from this chart review attended a trauma clinic and were predominantly female patients who experienced sexual abuse (82% female and 76% experienced sexual abuse as their primary trauma). Of the 34 patients in this review, 79% of patients received TF-CBT as a primary source of psychotherapy. Nightmares reoccurred in several patients who stopped their dose of prazosin.

A separate 2021 retrospective chart review of 42 pediatric patients found that 24 (57% of patients) had significant improvement in PTSD-associated nightmares with a mean dose of just 1.06 mg daily (Hudson et al., 2021). In this chart review, all identified patients

were on additional psychotropic medications. An additional consideration is that the primary trauma of patients in this study population was not documented. Results favoring the use of prazosin were bolstered by a prospective 2020 case-series of prazosin use in a pediatric inpatient population (Ferrafiat et al., 2020). The study enrolled 18 patients and found a significant decrease in the frequency of nightmares on 1–3 mg of prazosin after four weeks of treatment. Being cognizant of confounding effects in previous studies, no patients received psychotherapy prior to PTSD symptoms improving. Effects were found to be significant regardless of the patient's primary trauma exposure or sex (Ferrafiat et al., 2020).

Despite some promising initial research, there are significant caveats and limitations to these studies. Notably, the types of trauma patients were exposed to differed between studies. As a result, these study populations may not necessarily reflect the population of children diagnosed with PTSD across different settings and limit the studies' generalizability. Similarly, comorbid conditions varied between patients and were not controlled for as well. Finally, given the nature of these studies, patients oftentimes received some form of therapy (typically TF-CBT) or additional psychotropic medications in addition to prazosin. These factors are all possible confounders. However, given the results from these studies, there is some low-level evidence for the use of prazosin. More research, specifically gold standard RCTs, must be performed prior to more widespread adoption of prazosin for relieving sleep disturbances in pediatric PTSD.

There are practical considerations providers must contend with prior to the off-label use of prazosin. While prazosin is often well tolerated, orthostatic hypotension can occur in children taking this medication. To prevent this, it is recommended to start with a low dose of the medication and administer it before the patient goes to bed at night. Optimal pediatric dosing requires further investigation; however, in this literature review doses ranged from 0.5 mg daily to 15 mg daily across the studies. While discontinuation of prazosin without tapering may be well-tolerated, without data from robust safety trials, we would recommend gradual reduction of the dosage by 1–2 mg no more rapidly than once a week (Keeshin et al., 2017). Any form of rapid reduction could benefit from regular vital sign monitoring for concern around rebound hypertension (e.g., headache, nausea, anxiety).

Overall, there is evidence to support the use of prazosin to alleviate sleep disturbance symptoms in pediatric patients with PTSD. Given the potential role sleep symptoms play in maintenance and recovery of PTSD symptoms, ensuring adequate treatment is paramount. Larger, prospective studies that incorporate both subjective and objective sleep measures would be informative in guiding management. More research on efficacy and safety is needed to establish better dosing and targeting of symptoms. Clinicians should discuss these limitations with families and engage in shared decision-making around the off-label use of this medication. With current findings, psychotherapy remains a significant mainstay of treatment. A multimodal approach that includes prazosin as an adjunctive agent may result in improved sleep outcomes for children diagnosed with PTSD. ■

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