CURRENT TREATMENTS FOR NIGHTMARES AND NIGHTMARE DISORDER

An Effective Treatment for Sleep Disturbance Related to Nightmare Disorder and PTSD-Associated Nightmares Is An Unmet Need

Nightmares that are frequent and disturbing are common. Although dysfunctional nightmares are most common in PTSD, they are also seen in patients with mood and anxiety disorders. Nightmares are more common in patients with other sleep problems. In one study, 18.3% of patient with insomnia reported frequent distressing nightmares.[1] This study found that frequent nightmares are strongly associated with problems such as daytime sleepiness, mood problems, and deficits in concentration, attention, and memory.

It is widely recognized the dysfunctional nightmares that disrupt sleep are a major problem for some patients, especially those with PTSD.[2–4] Some patients respond to the current treatments, but the research on these treatments is contradictory. Prazosin, a quinazoline approved for the treatment of hypertension, was used in 6 small studies for the treatment of nightmares conducted from 2003 to 2014.[5–9] These studies appeared to show that prazosin is more effective than placebo in the treatment of PTSD-associated nightmares; however, prazosin had not been FDA approved for the treatment of nightmares. In 2018, a very large, well-designed multi-center trial in the VA hospital system failed to show any benefit of prazosin over placebo.[10] The experience of many clinicians is that while a subset of patients respond to prazosin or psychotherapy, for many patients, these treatments are ineffective.

It should be noted that there are some significant safety and adverse effect concerns with prazosin use. The FDA label for Prazosin for the treatment of hypertension carries a bolded warning for syncope occasionally associated with tachycardia and a Warning for priapism, and a precaution for intraoperative floppy iris syndrome. The most common adverse reaction to prazosin include dizziness, headache, drowsiness, lack of energy, weakness, palpitations and nausea. Additionally, many patients with nightmare disorders take multiple medications, and the risk of polypharmacy adverse effects is increased in these situations.[11]

The medical research on Imagery Rehearsal Therapy (IRT) and other forms of psychotherapy for nightmares is contradictory. Most of the studies of IRT used wait-list control groups,[12-16] which effectively eliminates any placebo effect of treatment. Higher quality studies demonstrated no benefit of IRT over a credible placebo.[17, 18] In one of the high-quality trials, there were very high discontinuation rates in the IRT treatment.[18] Other treatments, including medications and psychotherapy methods, have been used to treat Nightmare Disorder and PTSD-associated nightmares. The evidence for these treatments is even more sparse than for prazosin and IRT, and none of these treatments are recommended in clinical practice guidelines .[11, 19.]

Nightmare disorder is also underdiagnosed. Zadra and Donderi found a much higher incidence of nightmares and "bad dreams" (defined as disturbing dreams that did not cause an awakening) in patients keeping daily logs rather than recall over longer periods.[20] In one study of active duty military members, only 3.9% of the study population reported nightmares as the reason for sleep evaluation, yet 31.2% of these patients had clinically significant nightmares.[21]

Although Nightmare Disorder can be present along with other mental health disorders, it most often is noticed clinically in patients with PTSD. Piertrzak et al[22] provide the best prevalence data on PTSD, with 8% of women and 4% of men having a PTSD diagnosis. Estimates of PTSD prevalence in military populations vary from 4–17%, with the best estimates being around 8%.[22–30] Approximately 72% of patients newly diagnosed with PTSD complain of frequent, disturbing nightmares, and about 50% of patients with PTSD still complain about these nightmares 6 months after diagnosis.[2–4] These nightmares disrupt patient's sleep, and by disrupting sleep, they decrease patients' focus, attention, and cognitive abilities. This inadequate and poor-quality sleep can impair the patient's ability to participate in psychotherapy to treat PTSD, and impair their ability to function well in their families and society.

Current Guidelines Have Weak or No Recommendations for the Treatment of Nightmares

There are two current guidelines for the treatment of nightmares. First, the DoD/VA clinical practice guideline on PTSD management, published in 2017, did not recommend any particular treatment for nightmares.[11] In light of the limited data on the effectiveness of prazosin, the guideline did not recommend its use. The authors felt that data were lacking regarding psychotherapies, including IRT, and did not recommend any of them.

Second, the American Academy of Sleep Medicine (AASM) released a position paper on nightmare treatment in 2018.[31] Imagery Rehearsal Therapy was weakly recommended as the best available treatment. The AASM paper did not recommend for or against the use of prazosin. Multiple anti-psychotics, antidepressants, and other medications were mentioned as possible treatments, but the position paper noted that none of these choices had evidence to support their use. Both guidelines lamented the lack of proven treatments for nightmare disorders, and put out a call for new and more effective treatments for nightmares.

> *"For nightmares associated with PTSD, there is insufficient evidence to recommend for or against the use of prazosin as mono- or augmentation therapy."*
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> VA/DoD Clinical Practice Guideline for the Management of Posttraumatic Stress Disorder and Acute Stress Disorder, 2017

NightWare is not a standalone therapy for PTSD. The device should be used in conjunction with prescribed medications for PTSD and other recommended therapies for PTSD-associated nightmares and nightmare disorder.

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Important Safety Information

INTENDED USE/INDICATION FOR USE

The NightWare digital therapeutic is indicated to provide vibrotactile feedback on an Apple Watch based on an analysis of heart rate and motion during sleep for the temporary reduction of sleep disturbance related to nightmares in adults 22 years or older who suffer from nightmare disorder or have nightmares from post-traumatic stress disorder (PTSD). It is intended for home use.

CONTRAINDICATIONS

If you have acted out your nightmares (i.e. sleepwalking, violence) do not use NightWare and contact your Healthcare Provider.

WARNINGS

- NightWare is not a standalone therapy for PTSD. The device should be used in conjunction with prescribed medications for PTSD and other recommended therapies for PTSD-associated nightmares and nightmare disorder, according to relevant consensus guidelines.
- If daytime sleepiness occurs, contact your Healthcare Provider.
- If you feel drowsy, do not drive or operate heavy machinery. Contact your health care provider.
- If the watch vibration causes awakenings not associated with nightmares, please contact your Healthcare Provider.
- If nightmares persist, worsen, or recur, contact your Healthcare Provider.
- If skin irritation occurs, discontinue use of the watch and contact your Healthcare Provider.
- Your watch may disturb your bedpartner. Try not to expose your bedpartner to the watch at night.
- Do not wear the watch too tightly, it should feel comfortable and snug, not tight on your wrist.
- Wear the watch only when you are planning to go to sleep; do not wear it while reading or watching TV in bed as this may trigger false alerts.
- Use the NightWare watch every night.
- Not intended for use by individuals under age 22.
- The long term safety and effectiveness of the NightWare device has not been established.
- The long term effects of the NightWare device use on the sleep architecture have not been established.

PRECAUTIONS:

- Do not drop or crush the smartphone or watch.
- Be sure to charge the smartphone and watch every day.