Insights from a User Meeting on NightWare for PTSD-Related Nightmares: Using NightWare Data Effectively

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Abstract:

This white paper presents critical insights derived from a NightWare user meeting, focusing on NightWare data in the context of management and treatment of Nightmare Disorder and PTSD-related nightmares. Through the lens of healthcare professionals, it underscores the importance of discerning distinct data patterns associated with various sleep disorders using NightWare's innovative digital therapeutic technology. Personalized adjustment of the device based on patient feedback and iterative interpretation of sleep data has been emphasized to ensure optimal treatment outcomes. The paper also delves into the challenge of artifacts in NightWare data, proposing cross-verification with clinical symptoms as a solution to ensure accuracy. As such, this document highlights the substantial utility of NightWare data in serving as another tool for clinicians who are treating patients with Nightmare Disorder and PTSD-associated Nightmares, enhancing the patient-centric focus in treatment strategies.

Introduction:

Nightmare Disorder is typified by frequent and distressing nightmares that can cause significant disruptions in a person's day-to-day functioning. Despite the existence of numerous treatment options for this condition, a substantial portion of patients remain refractory to these interventions, resulting in persistent health issues. NightWare, a cutting-edge, non-pharmacological, and non-invasive digital therapeutic device, offers a promising solution through its use of smartwatch technology to detect and disrupt nightmares during sleep. This white paper intends to summarize and share the insights gleaned from a NightWare user meeting and discuss their implications for healthcare professionals who treat patients dealing with Nightmare Disorder or PTSD-associated Nightmares.

Participants:

The meeting was moderated by COL (Ret.) Brian Robertson, MD, Chief Medical Officer of NightWare and attended by four clinicians supporting active duty military personnel representing occupational therapy, neurology, psychology, and internal medicine. Clinicians preferred to not disclose their names.

Methods:

The user meeting was attended by sleep medicine doctors, psychologists, and other healthcare providers who treat patients with nightmare disorder. The meeting was designed to gather feedback from prescribers about the use of NightWare in clinical practice, including best practices to get the most out of NightWare data. The meeting was structured as a moderated discussion, and the insights gained were recorded and summarized.

Results:

The user meeting generated several insights that have important implications for clinicians who treat patients with Nightmare Disorder. These insights are organized into the following categories: patterns in data associated with sleep disorders, adjusting NightWare for optimal results, and artifacts in NightWare data.

Patterns in Data Associated with Sleep Disorders:

- **NightWare data reveals distinct patterns corresponding to different sleep disorders, allowing for early detection and personalized, dynamic treatment strategies.**
- **Understanding these patterns enables clinicians to design and implement more precise, effective treatment plans, optimizing the use of NightWare in patient care.**

Throughout the meeting, it was noted that NightWare's data demonstrated distinct patterns in correlation with various sleep disorders. For example, in cases of insomnia, the data might show extended periods of restless sleep or recurrent waking phases. Sleep apnea events might present as periods of increased heart rate. These patterns provide valuable insights into the underlying sleep disorders. Identifying these patterns within the NightWare data allows for not only earlier detection of these conditions but also enables a dynamic and adaptive treatment strategy, which will optimize treatment using NightWare. By understanding these data patterns, clinicians can design and implement more precise and effective treatment plans for their patients.

Adjusting NightWare for Optimal Results:

- **NightWare's adjustable settings allow for catering to individual patient needs; adjusting these settings is done best through an iterative approach.**
- **Clinicians are urged to consider patient feedback and sleep data for optimal device calibration, potentially adjusting stress thresholds and vibration intervals.**

The adjustability of NightWare's settings based on individual patients' needs emerged as a key topic of discussion during the meeting. Given the highly individualized nature of sleep and its

associated disorders, it was acknowledged that a one-size-fits-all approach is not optimal. Hence, NightWare provides a calculated and personalized treatment for each user. For patients that need the treatment to be adjusted beyond the automatic adjustments the software makes, a certain degree of trial-and-error is necessary to change and optimize the device to the individual's unique needs. Therefore, it was suggested that clinicians should adopt an iterative approach to setting adjustments, taking into account the patient's feedback and sleep data from NightWare. These adjustments could include altering the stress threshold manually or modifying the interval in which the watch vibrates during an intervention.

Artifacts in NightWare Data:

- **Artifact data from sources like device malfunction or misuse are crucial to identify.**
- **Cross-verification of NightWare data with clinical symptoms and patient feedback is an effective way to identify artifacts and understand the patient's sleep.**

Artifacts emerged as a concern during the meeting. These could arise from various sources such as device malfunction, improper use including the wristband being worn too tight or loose, or external factors such as movements unrelated to sleep. Distinguishing genuine data from potential anomalies is of paramount importance, as the accuracy of NightWare data interpretation directly impacts the effectiveness of clinical decisions based on that data. To navigate this issue, various strategies were discussed. Cross-verification with clinical symptoms and patient feedback was suggested as a robust method of identifying artifacts. The combination of objective data from NightWare and subjective inputs from the patient can help clinicians to form a comprehensive, reliable understanding of the patient's sleep patterns and disturbances.

Conclusion:
This NightWare user meeting elucidated key considerations in effectively leveraging the NightWare device for treating patients with Nightmare Disorder and PTSD-associated nightmares. The meeting brought to light distinct patterns in NightWare data associated with various sleep disorders, underscoring the importance of understanding these patterns for early detection and devising dynamic, tailored treatment strategies. The discussion also emphasized the necessity of adjusting NightWare settings based on individual patient needs for optimized outcomes. Given the diverse and highly individual nature of sleep disorders, an iterative, patient-centric approach to setting adjustments was advised. Lastly, the issue of artifacts in NightWare data was acknowledged and addressed. Cross-verification with clinical symptoms and patient feedback was suggested to help identify and rectify these artifacts, thereby ensuring the reliability of data interpretation. In conclusion, the user meeting highlighted the substantial utility of NightWare data in enhancing the management of Nightmare Disorder and PTSD-related Nightmares.

Meeting insights will be incorporated into the <u>NightWare Clinical Treatment Guidelines</u> which provides prescribing clinicians the best practices for maximizing outcomes through utilizing NightWare. If you would like to request access to this document you may email <u>nightwareprofessionaleducation@nightware.com</u> or visit the Prescriber Resources section at <u>www.nightware.com</u>.