AN ANCIENT DISEASE IN A MODERN WORLD: EPILEPSY AND DREAM RESEARCH

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Epilepsy is an ancient and universal disease that has inspired fear, reverence and curiosity for centuries. The World Health Organization estimates that around 50 million people worldwide have epilepsy, making it one of the most common neurological diseases globally.[1] There is, as yet, little research into the dreams of epileptics. The research we have, however, provides knowledge about epilepsy, suggests ways to improve epileptic care, and offers insight into the experience of people with epilepsy. Epilepsy is treatable and societal knowledge of epilepsy directly correlates with successful treatment; however, misunderstanding and lack of knowledge about the condition perpetuates stigma and undermines epileptic healthcare.[2] This article provides an overview of current research into dreams and epilepsy, explores the challenges epileptics face in the modern world, and suggests possible implications for epileptic care and future research. Recent findings shed light on the protective role of REM sleep against seizures, the impact of epilepsy on dreaming and spiritual experience, and the needs of vulnerable populations (such as children and the elderly). While the focus of this article is on recent findings, a brief look at the history of epilepsy and the use of dreams in

1 WHO, "Epilepsy," World Health Organization, last modified October 19, 2023, https://www.who.int/news-room/fact-sheets/detail/epilepsy.

2 Kritika Gosain and Tannistha Samanta, "Understanding the Role of Stigma and Misconceptions in the Experience of Epilepsy in India: Findings From a Mixed-Methods Study," *Frontiers in Sociology* 7 (May 13, 2022): 790145, https://doi.org/10.3389/fsoc.2022.790145; Christian M. Kaculini, Amelia J. Tate-Looney, and Ali Seifi, "The History of Epilepsy: From Ancient Mystery to Modern Misconception," *Cureus* 13, no. 3 (2021): 1, https://doi.org/10.7759/cureus.13953.

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the treatment of epileptics affords insight into ancient misconceptions that continue to impact epileptics.

For centuries and across cultures people have tried to understand and treat epilepsy. Written descriptions of epilepsy are found in ancient texts from Egypt (circa 1700 BCE), India (400 BCE), Babylonia (1067 BCE), and China (770–221 BCE). Many of these texts attribute epilepsy to the supernatural. Others explore the physiological characteristics of the disease. Known as the "Sacred Disease" in ancient Greece, epilepsy was attributed to the gods and demonic possession. Exorcism of epileptics was practiced in biblical times, throughout the Middle Ages, and is still performed on epileptics in Africa, Saudi Arabia, among British Muslims, [3] and in modern Western societies.[4] Epilepsy has also been linked historically to ecstatic healing, prophesy, and the initiatory call of shamanic healers.[5] Stanley Krippner notes that Shamans are called to their professions in a number of ways, including through seizures and lucid and vivid dreams.[6]

While association with the supernatural dominates much of history, early medical texts demonstrate interest in and knowledge of epilepsy as a physiological condition. Ancient Ayurvedic texts, for example, provide a remarkably accurate description of epilepsy while prescribing a holistic course of treatment.[7] As early as 1700 BCE, Egyptians considered epilepsy to be caused by cortical disruption. In the 5th century BCE, Hippocrates hypothesized that epilepsy was not a sacred disease but a brain disorder.[8]

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[3] Ian Bone and Simon Dein, "Religion, Spirituality, and Epilepsy," *Epilepsy and Behavior* 122 (Sept. 2021): 108219, https://doi.org/10.1016/j.yebeh.2021.108219.

[4] Ruta Mameniskiene, Eglė Sakalauskaite-Juodeikiene, and Valmantas Budrys, "People with Epilepsy Lack Knowledge about Their Disease," *Epilepsy and Behavior* 46 (2015): 192, https://doi.org/10.1016/j.yebeh.2015.03.002.

[5] Jeanne Achterberg, *Imagery in Healing* (Boulder, Col: Shambhala Publications, 1985), 21.

[6] Stanley Krippner, "Psychoneurological Dimensions of Anomalous Experience in Relation to Religious Belief and Spiritual Practices," in *Soul, Psyche, Brain*, ed. Kelly Bulkeley (New York: Palgrave Macmillan, 2005), 77.

[7] M. Tripathi et al., "Ayurvedic Medicine and Epilepsy," *Neurological Journal of Southeast Asia* 5 (2000): 1, 3.

[8] Kaculini, Tate-Looney, and Seifi, "The History of Epilepsy," 2–3.

Throughout this long history, dreams have played a role in healing traditions worldwide. In ancient Ayurvedic tradition, dreams were used in clinical practice to facilitate diagnosis, prognosis, and health maintenance.[9] The practice of dream healing during sleep and the use of dreams to diagnose illness was prominent in ancient Egypt and in ancient Greece.[10] One Greek account records the cure of an epileptic through a dream at the sanctuary of Asclepius at Epidaurus.[11] Dreams continue to be used globally by Shamans and traditional healers.

The advent of modern neurology in the mid-19th century marks the beginning of our current understanding of epilepsy. Epilepsy, as defined by The International League Against Epilepsy (ILAE), is a chronic brain disorder characterized by a tendency to have recurrent, unprovoked seizures. A seizure is a sudden, temporary burst of activity in brain cells, which alters a person's movement, behavior, awareness, sensations and/or feelings.[12] Seizures are classified as focal, generalized or unknown.[13] A focal seizure occurs in one area of the brain. A generalized seizure begins in both hemispheres of the brain. When the location of seizure cannot be identified it is classified as unknown. The nature of the seizure and the symptoms the epileptic experiences can vary greatly depending on where the seizure occurs in the brain. Generalized seizures may have non-motor symptoms (such as staring spells) or muscle movement: jerking (clonic), limp (atonic), tense or rigid (tonic), or twitching (myoclonus). Focal seizures may also involve muscle movement as well as non-motor symptoms. Non-motor symptoms include

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[9] Kanchan Chowdhury, Satish B. Patil, and Nilanjan Datta, "Concept of Swapna (Dream)," *Scholars Journal of Applied Medical Sciences* 2, no. 1 (2014): 494.

[10] Helen Askitopoulou, "Sleep and Dreams: From Myth to Medicine in Ancient Greece," *Journal of Anesthesia History* 1, no. 3 (2015): 70, https://doi.org/10.1016/j.janh.2015.03.001.

[11] Michael Zellmann-Rohrer, "Hippocratic Diagnosis, Solomonic Therapy, Roman Amulets: Epilepsy, Exorcism, and the Diffusion of a Jewish Tradition in the Roman World," *Journal for the Study of Judaism* 36, no. 5 (2021): 14, https://doi.org/10.1163/15700631-bja10033.

[12] Robert S. Fisher et al., "ILAE Official Report: A Practical Clinical Definition of Epilepsy," *Epilepsia* 55, no. 4 (2014): 475, https://doi.org/10.1111/epi.12550.

[13] Puja Patel and Solomon L. Moshé, "The Evolution of the Concepts of Seizures and Epilepsy: What's in a Name?," *Epilepsia Open* 5, no. 1 (2020): 22, https://doi.org/10.1002/epi4.12375.

changes in sensation, emotion, cognition, and aphasia (the inability to speak or understand language).

The development of anti-seizure medications (ASMs) in the early 20th century was a watershed event in epilepsy treatment. The World Health Organization estimates that 70% of epileptics could be seizure free with the use of ASMs. In low-income countries however, only 25% of epileptics receive treatment.[14]

While modern neuroscience has radically altered both our understanding and treatment of seizures, epilepsy's long and complicated history spills into the present. Stigma, isolation, and discrimination impact both quality of life and quality of care. As recently as the mid-20th century in the USA, for example, epileptics were not allowed to marry and sterilization was encouraged.[15] In their study of people with epilepsy (PWE) in India, Gosain and Samanta found that epileptics in the study used concealment of their condition as "a dominant coping strategy" to mitigate "social alienation and rejection associated with epilepsy."[16] Even successful treatment and the cessation of seizures, however critical, cannot assure quality of life for epileptics who continue to combat stigma, discrimination, and stress-related disorders. For this we need multi-disciplinary and culturally sensitive research and treatment.

Epilepsy, Sleep, Dreaming, and the Protective Role of REM

Sleep plays a critical role in the health and wellbeing of epileptics. Sleep issues can impact dream recall (DR) and trigger seizures in epileptics. Epilepsy has been found to effect sleep-related cognitive activity such as memory consolidation and the cognitive processes at work during dreaming.[17] Studies in adults with epilepsy have shown that sleep disturbances were twice as prevalent in people with epilepsy as

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14 WHO, "Epilepsy."

15 Kaculini, Tate-Looney, and Seifi, "The History of Epilepsy," 2–3.

16 Gosain and Samanta. "Understanding the Role."

17 Aurélien de la Chapelle et al., "Relationship Between Epilepsy and Dreaming," *Frontiers in Neuroscience,* 15 (2021): 1-2, https://doi.org/10.3389/fnins.2021.717078.

in healthy controls, while sleep disturbance significantly increases the risk of seizures.[18] Epileptics are more likely than non-epileptics to suffer from parasomnias, nightmare disorder, and night terrors.[19]

Recent research has found that REM sleep appears to protect against seizures. In fact, reduced REM is suggested as a biomarker for epilepsy.[20] While some seizures occur almost exclusively during sleep, especially NREM sleep, it is rare for epileptic seizures to be observed during REM. REM has been found to inhibit seizure activity during a seizure but also impedes the spikes of electrophysiological activity epileptics experience between seizures.[21]

Each sleep stage provides a different level of neural connectivity. Brain connectivity describes both the interactions within each brain system and the interactions between brain systems. During NREM sleep there are higher levels of within system integration (greater integration within the limbic system, for example) but lower levels of between system integration (less integration between the prefrontal cortex, limbic system, and brain stem). In contrast to NREM, there is increased interaction between major brain systems during REM.[22]

Seizures involve excessive synchronization in the brain that interrupts the connections between brain systems and disrupts the brain's normal functioning. A seizure is like a storm in the brain that takes out the power lines and floods the roads. It disables both communication within the epileptic's brain and between the epileptic and others. Researchers hypothesize that the influence of REM sleep on seizures is

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[18] Therese Gutter et al., "Prevalence of Sleep Disturbances in People with Epilepsy and the Impact on Quality of Life," *Seizure* 69 (July, 2019): 298, https://doi.org/10.1016/j.seizure.2019.04.019.

[19] de la Chapelle et al., "Relationship," 4–5.

[20] Ufuk Sadak et al., "Reduced REM Sleep: A Potential Biomarker for Epilepsy – a Retrospective Case-Control Study," *Seizure* 98 (May 1, 2022): 27, https://doi.org/10.1016/j.seizure.2022.03.022.

[21] Sadak et al., "Reduced REM Sleep," 4–5.

[22] Ho Ming Chow et al., "Rhythmic Alternating Patterns of Brain Activity Distinguish Rapid Eye Movement Sleep from Other States of Consciousness," *Proceedings of the National Academy of Sciences of the United States of America* 110, no. 25 (2013): 10300, https://doi.org/10.1073/pnas.1217691110.

due to a desynchronized EEG pattern during REM.[23] The connectivity of REM may be reflected in dream content. Dream reports sampled after REM awakenings show more connectedness and higher levels of dream complexity.[24] While these are recent findings, they suggest that improving sleep generally and REM in particular, may be helpful in reducing seizure frequency in epileptics. Dream recall and dream complexity could be indicators of increased REM connectivity and subsequent lower seizure threshold.

Challenges to Research: Dream Recall, Differences in Epilepsies, and ASMs

Several issues confront the researcher interested in studying the dreams of epileptics: dream recall, differences in seizures, the impact of anti-seizure medications (ASMs), and co-occurring disorders. Leaving aside co-occurring disorders for the moment, let's begin with the issues posed by dream recall (DR), ASMs, and types of seizures.

It is difficult to study dreams if people do not remember their dreams. While DR is decreased in epileptics, decreases in DR vary by epilepsy type. People with complex partial seizures, for example, have approximately twice the DR of those with generalized seizures.[25] Decrease in DR is also associated with sleep disruption, certain medications, and cognitive impairment.[26] There is some evidence that seizure symptoms may be incorporated into dream content.[27] This suggests seizures may directly or indirectly interfere with dreaming. Dream recall frequency has been associated with curiosity about and attention

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[23] Marcus Ng and Milena Pavlova, "Why Are Seizures Rare in Rapid Eye Movement Sleep? Review of the Frequency of Seizures in Different Sleep Stages," *Epilepsy Research and Treatment* (June, 2013): 1, https://doi.org/10.1155/2013/932790.

[24] Joshua M. Martin et al., "Structural Differences between REM and Non-REM Sleep Reports Assessed by Graph Analysis," *PLoS One* 15, no. 7 (2020): e0228903, https://doi.org/10.1371/journal.pone.0228903.

[25] Enrica Bonanni et al., "Dream Recall Frequency in Patients with Partial and Generalized Seizures," *Epilepsia* 43, no. 8 (2022): 888, https://doi.org/10.1046/j.1528-1157.2002.48101.x.

[26] de la Chapelle et al., "Relationship," 1.

[27] de la Chapelle et al., "Relationship," 4.

to dreams,[28] experiential openness,[29] creativity,[30] thin boundaries,[31] and a predisposition to become immersed in mental imagery and sensory experience.[32] In some studies dream recall has been found to correlate with health and a sense of wellbeing.[33] Studies assessing the use of DR strategies (such as dream journaling) with epileptics may help us better understand poor DR in epileptics and the value of DR strategies.

ASMs present another confounding factor in epileptic dream research. Little is known about the impact of ASMs on dreaming but some studies have found that ASMs can have a negative influence on sleep. Both seizure activity and ASM withdrawal have been associated with deficits in REM.[34] Although the relationship between sleep and seizure activity is well known, current epilepsy management guidelines fail to account for the impact of ASMs on sleep.[35]

The effect of epilepsy on dreaming can vary with the type of seizures. These differences may influence subject selection for a dream research study. Nocturnal seizures, for example, are more likely to be incorporated into dream content.[36] Higher DR, has been found in epileptics with left vs. right temporal lobe epilepsy (TLE). Higher levels of aggression,

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28 Michael Schredl and Anja S. Göritz, "Dream Recall Frequency, Attitude toward Dreams, and the Big Five Personality Factors," *Dreaming* 27 (2017): 49–58, https://doi.org/10.1037/drm0000046.

29 Michael Schredl et al., "Factors of Home Dream Recall," *Journal of Sleep Research* 12 (2003): 133–141, https://doi.org/10.1046/j.1365-2869.2003.00344.x; Schredl and Göritz, "Dream Recall Frequency."

30 Serge Brand et al., "Dream Recall and its Relationship to Sleep, Perceived Stress, and Creativity among Adolescents," *Journal of Adolescent Health,* 49 (2011): 525–531, https://doi.org/10.1016/j.jadohealth.2011.04.004.

31 Ernest Hartmann, "Boundaries of Dreams, Boundaries of Dreamers," *Psychiatric Journal of the University of Ottawa,* 14 (1989): 557–560, https://doi.org/10.2190/HK76-038K-407M-8670; Schredl et al., "Factors of home dream recall."

32 Schredl et al., "Factors of home dream recall."

33 de la Chapelle et al., "Relationship," 7.

34 J. Layne Moore et al., "Sleep and Epilepsy: A Focused Review of Pathophysiology, Clinical Syndromes, Co-Morbidities, and Therapy," *Neurotherapeutics* 18, no. 1 (2021): 170, https://doi.org/10.1007/s13311-021-01021-w.

35 Lino Nobili et al., "Expert Opinion," *Epilepsy and Behavior* 124 (November 2021): 108341, https://doi.org/10.1016/j.yebeh.2021.108341.

36 de la Chapelle et al., "Relationship," 7.

fewer animals, and more self-negative expressions have been found in the dream content of epileptics with left vs. right TLE.[37]

Epilepsy and Dream Content

Studies have found differences in the dreams of epileptics when compared to dreams of non-epileptics. The dream reports of epileptics are shorter compared to non-epileptics. Dream content is more vivid and emotional. There are more familiar characters and settings, fewer dreams of success and more negative dream content.

The dreams of epileptics also reflect subjective feelings associated with seizures.[38] Dreams have been found to reflect waking life experience and especially recent and/or emotional events.[39] The dreams of epileptics, therefore, may provide insight into the experience and emotional impact of epilepsy. A deeper understanding of this experience may help de-mystify the disease and facilitate de-stigmatization.

A number of studies examine the possible incorporation of seizures into dream content. While seizures are rare during REM sleep, dreams can occur during light NREM, a stage of sleep associated with seizure activity.[40] Some epileptics, notably those with TLE, report having seizures in their dreams and there is some evidence to suggest the possible incorporation of seizure symptoms into dream content.[41] This appears to be an area of particular interest to epileptics. In numerous posts on the Epilepsy Foundation Forum, for example, epileptics question whether certain dreams are actually seizures. Research that helps epileptics discern the difference between seizures and dreams could be helpful in an epileptic's self-understanding, as well as in medication management.

Different types of seizures can have varying effects not only on DR but also on dream content and the emotional valence of dreams. People with TLE, for example, are more likely to have recurring, intense, and

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37 de la Chapelle et al., "Relationship," 7.
38 de la Chapelle et al., "Relationship," 6.
39 de la Chapelle et al., "Relationship," 6.
40 de la Chapelle et al., "Relationship," 4.
41 de la Chapelle et al., "Relationship," 4.

frightening dreams. People with TLE are also more likely to experience déjà-rêvé (the sensation you dreamed about something before it happened).[42]

Dreams of Children with Epilepsy

The onset of epilepsy occurs most frequently in children and the elderly.[43] Sleep problems are common in children with epilepsy. Fatigue and sleep deprivation can trigger seizures.[44] Children are particularly vulnerable because epilepsy can impact brain development and children have not yet developed coping skills to deal with either the stress that can trigger seizures or the emotions living with seizures can evoke. When epilepsy interferes with memory consolidation, a child will struggle to integrate new information at a critical time for learning.[45] When epilepsy interferes with emotion regulation, it can lead to issues with behavior and mood. Research suggests that dreams may play a role both in memory consolidation and emotion regulation.[46] As yet we know little about the impact of epilepsy on dreaming in children or the possible impact of sleep and dream deficits in cognitive development, memory consolidation, and emotion regulation in these children.

Children with epilepsy are at greater risk for developing depression, anxiety, ADHD, and behavioral issues. While few studies examine the dreams of these children, the available research is compelling. One study examining symbolic function in children with epilepsy found that the dream content of children showed "a high presence of psychical suffering, unprocessed or impossible to process."[47]

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42 Jonathan Curot et al., "Déjà-Rêvé," *Brain Stimulation* 11, no. 4 (July 1, 2018): 875, https://doi.org/10.1016/j.brs.2018.02.016.

43 Ettore Beghi, "The Epidemiology of Epilepsy," *Neuroepidemiology* 54, no. 2 (2020): 185, https://doi.org/10.1159/000503831.

44 Angelika A. Schlarb et al., "Sleep and Dreaming in Children and Adolescents with Epilepsy," *Somnologie* 20, no. 4 (2016): 242, https://doi.org/10.1007/s11818-016-0077-1.

45 Ana Filipa Lopes et al., "Memory Functioning in Children with Epilepsy," *Behavioural Neurology* (2014): 1, https://doi.org/10.1155/2014/218637.

46 de la Chapelle et al., "Relationship," 1.

47 Sabina La Grutta et al., "Symbolic Function Explored in Children with Epilepsy and Headache," *Minerva Pediatrica* 59, no. 6 (2007): 745.

Talking with children about their dreams may help parents and caregivers better understand the emotional challenges of children with epilepsy. The experience of epilepsy is frightening, isolating, and difficult to describe. Dream sharing may help children talk about these experiences and process the powerful emotions seizures evoke. Such sharing may help alleviate fear and isolation.[48]

Dreams, Epilepsy, and Aging

While epilepsy is most often diagnosed in childhood, approximately 25 per cent of new-onset seizures occur after the age of sixty-five.[49] It can be difficult to diagnose epilepsy in the elderly as many symptoms of seizure may be attributed to aging (confusion, loss of awareness, falling, anxiety). As yet, there is little research into the dreams of this population. Research does indicate a decrease in DR in the elderly, possibly linked to a reduction in REM sleep, however this research is not specific to epileptics.

Understanding the impact of aging on REM sleep is important both for epileptics who are aging and for those who develop epilepsy late in life. Elderly people tend to sleep less, sleep less efficiently, have reduced REM sleep and awaken more often during REM. In addition, dream recall tends to decline with age.[50] As REM appears to be protective against seizures, it is possible that decreased REM in the elderly is a risk factor for late-onset epilepsy.

Memory consolidation critical for children is also significant for elderly epileptics. Itzhak Fried, a neurosurgeon specializing in intractable seizure disorders, writes: "There is what I call a cognitive tsunami coming to us. Millions and millions of patients, the aging population,

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[48] Alan Siegel and Kelly Bulkeley, *Dreamcatching: Every Parent's Guide to Exploring and Understanding Children's Dreams and Nightmares* (Pennsylvania State Univesity: Three Rivers Press, 1998) provides an accessible resource for parents who want to understand and help their children talk about their dreams.

[49] Shasha Liu, Weihua Yu, and Yang Lü, "The Causes of New-Onset Seizures in the Elderly," *Neuropsychiatric Disease and Treatment* 17 (June 2016): 25, https://doi.org/10.2147%2FNDT.S107905.

[50] Anastasia Mangiaruga et al., "Spotlight on dream recall," *Nature and Science of Sleep* 10 (2018): 1, https://doi.org/10.2147/NSS.S135762.

are going to have initially mild memory deficiencies and later develop Alzheimer's and other disorders, and, presently, we really have no pharmacological treatment."[51]

Much of the available research on dreaming in older epileptics examines rapid eye movement sleep behavior disorder (RBD). This condition predominantly affects older adults and can co-occur in epileptics.[52] People with this disorder, lacking the body's natural inhibition of muscle movement during dreaming, appear to enact their dreams while asleep. Behaviors can be violent when there is violent dream content. RBD is associated with higher risk for Parkinson's disease and dementia[53] and has also been linked to PTSD, depression, anxiety, and alcohol use.[54] Given that epileptics have increased risk for PTSD and depression, early treatment of trauma and depression in epileptics may decrease vulnerability to RBD.

Epilepsy and Co-Occurring Disorders

RBD is a good example of the complex relationship between epilepsy and physical and mental health. Depression is the most common disorder co-occurring with epilepsy and the most prevalent mental health disorder afflicting epileptics globally.[55] The relationship between epilepsy and depression is bi-directional. Recent studies have found that a history of depression increases the risk of developing epilepsy, while epilepsy increases the risk of depression. Suicide rates among epileptics are ten times higher than the general population.[56] Despite the preva-

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51 UCLA Health, "Finding a Way to Halt Memory Loss," January 31, 2023, https://www.uclahealth.org/news/finding-way-halt-memory-loss.

52 Raffaele Manni and Michele Terzaghi, "Comorbidity between Epilepsy and Sleep Disorders," *Epilepsy Research* 90, no. 3 (2010): 171, https://doi.org/10.1016/j.eplepsyres.2010.05.006.

53 Amber Roguski et al., "A Neurologist's Guide to REM Sleep Behavior Disorder," *Frontiers in Neurology* 11 (2020): 610, https://doi.org/10.3389/fneur.2020.00610.

54 Chun Yao et al., "Risk Factors for Possible Rem Sleep Behavior Disorder," *Neurology* 92, no. 5 (January 29, 2019): E475, https://doi.org/10.1212/WNL.0000000000006849.

55 Claudia Espinosa-Garcia, Helena Zeleke, and Asheebo Rojas, "Impact of Stress on Epilepsy," *International Journal of Molecular Science* 22, no. 8 (2021): 4061, https://doi.org/10.3390%2Fijms22084061.

56 Andres M. Kanner, "Depression in Epilepsy," *Biological Psychiatry* 54, no. 3 (2003): 388, https://doi.org/10.1016/S0006-3223(03)00469-4.

lence of depression in epileptics, mood disorders often go undiagnosed and untreated.[57] The diagnosis of depression in epileptics can be more difficult because the clinical picture of depression in epileptics does not correspond to diagnostic classification systems.[58] Further, the stigma associated with epilepsy can cause epileptics to hide depression and isolate rather than obtain help.

We have research on the dreams of people with depression, but not, to my knowledge, on the dreams of epileptics with depression compared with epileptics without depression. Negative dream content is found in both the dream reports of epileptics and those of people with depression, with depressed subjects having "fewer characters in their dreams and especially fewer strangers."[59] Research into the differences between depressed and non-depressed epileptics might facilitate early intervention and treatment of depression in epileptics.

Epilepsy is also linked to PTSD. There is increased prevalence of PTSD among epileptics while traumatic experience increases the risk of epileptic seizures.[60] Some people develop PTSD and psychiatric symptoms following epileptic seizures. Both people with epilepsy and people with PTSD experience significant sleep disturbance, increased nightmares, and negative dream content. While there is considerable research on trauma and dreams, there is little research on the dreams of traumatized epileptics. Stress and stress disorders can play a critical role in the health of epileptics.

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[57] Christian Prueter and Christine Norra, "Mood Disorders and their Treatment in Patients with Epilepsy," *The Journal of Neuropsychiatry and Clinical Neurosciences* 17, no. 1 (2005): 20, https://doi.org/10.1176/jnp.17.1.20.

[58] Eva Bølling-Ladegaard et al., "Directionality of the Association Between Epilepsy and Depression: A Nationwide Register-Based Cohort Study," *Neurology* 100, no. 9 (2023): E932, https://doi.org/10.1212/WNL.0000000000201542.

[59] Deirdre Barrett and Michael Loeffler, "Comparison of Dream Content of Depressed vs Nondepressed Dreamers," *Psychological Reports* 70, no. 2 (1992): 403, https://doi.org/10.2466/pr0.1992.70.2.403.

[60] Harriet J. Rosenberg et al., "A Comparative Study of Trauma and Posttraumatic Stress Disorder Prevalence in Epilepsy Patients and Psychogenic Nonepileptic Seizure Patients," *Epilepsia* 41, no. 4 (April 1, 2000): 447, https://doi.org/10.1111/j.1528-1157.2000.tb00187.x.

Stress has been found to trigger seizures in both children and adults.[61] One study found COVID-19 infection significantly increased vivid dreams and nightmares in patients with daytime (diurnal) seizures. The researchers observed "significant deterioration in general health in patients with active epilepsy during the COVID-19 pandemic, regardless of COVID-19 disease."[62] Nightmares and intense or vivid dream content may signal a need for stress reduction interventions in epileptics.

Co-occurring disorders can complicate epilepsy treatment, challenging us to understand the complexity of the disease. While as yet we know little about the dreams of epileptics with co-occurring disorders, a greater understanding of and attention to epileptic dreaming might facilitate treatment. Increased negative dreams in epileptics may signal a need for treatment of depression. Severity of PTSD symptoms correlates with difficulty in identifying internal feelings and emotions.[63] Therapeutic work with dreams may help epileptics identify and process emotion. Clara Hill's Cognitive-Experiential-Dream Model, for example, facilitates exploration of dreams to gain insight. Might Hill's Model help increase insight into feelings and lessen the severity of post seizure symptoms?

Nightmares and Epilepsy

Nightmares are intense, frightening or distressing dreams. While nightmares are a normal part of healthy dreaming, they can undermine health and wellbeing when they recur with frequency and intensity. They can also be an indicator of physical and psychological distress and illness. Nightmares have been found to negatively impact sleep quality,

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[61] Maeike Zijlmans, Jolien S. Van Campen, and Al De Weerd, "Post Traumatic Stress-Sensitive Epilepsy," *Seizure: European Journal of Epilepsy* 52 (2017): 20, https://doi.org/10.1016/j.seizure.2017.09.010.

[62] Jana Slonkova et al., "The Effects of COVID-19 on Sleep and General Health of Czech Patients with Epilepsy," *Heliyon* 9, no. 2 (2023): e13413, https://doi.org/10.1016/j.heliyon.2023.e13413.

[63] Man Cheung Chung, Rachel D. Allen, and Ian Dennis, "The impact of self-efficacy, alexithymia and multiple traumas on posttraumatic stress disorder and psychiatric co-morbidity following epileptic seizures," *Psychiatry Research* 210, no. 3 (2013): 1043, https://doi.org/10.1016/j.psychres.2013.07.041.

and increase anxiety before sleep.[64] This makes nightmares problematic for epileptics as poor sleep quality can increase seizure activity.[65]

Several factors have complicated research into epileptic nightmares. Zadra suggests that nightmare research has suffered from "inconsistent definitions." Hartman (1984), for example, defines a nightmare as a frightening dream that awakens the dreamer, other researchers have not used the waking criteria, and still others have let study participants determine whether their dream is a nightmare.[66] Research has found nightmares to be more prevalent in certain types of epilepsy. Silvestri and Bromfield, for example, have found recurrent nightmares in people with TLE.[67] To further complicate study of epileptic nightmares, nocturnal seizures, particularly complex partial seizures, may appear to be nightmares. These "nightmares" are more likely to occur during NREM.[68]

The relationship between sleep and emotion regulation is well documented.[69] Sleep helps us regulate emotions. Poor sleep quality can result in emotion dysregulation. Nightmares may help us process negative and frightening experiences; but chronic or traumatic nightmares can interfere with sleep. Sleep disruption, in turn, can trigger seizures in epileptics. Epileptics who experience nightmares may benefit from interventions that help process the distress associated with nightmares. There are a number of models for helping people deal with nightmares. These include self-help models a parent might use with an epileptic

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64 Franc Paul, Michael Schredl, and Georg W. Alpers, "Nightmares Affect the Experience of Sleep Quality but Not Sleep Architecture," *Borderline Personality Disorder and Emotion Dysregulation* 2, no. 3 (2015): 1, https://doi.org/10.1186/s40479-014-0023-4.

65 de Chapelle et al., "Relationship," 7.

66 Antonio Zadra and Don C. Donderi, "Nightmares and Bad Dreams," *Journal of Abnormal Psychology* 109, no. 2 (2000): 273, https://doi.org/10.1037/0021-843X.109.2.273.

67 Rosalia Silvestri and Edward Bromfield, "Recurrent Nightmares and Disorders of Arousal in Temporal Lobe Epilepsy," *Brain Research Bulletin* 63, no. 5 (2004): 369, https://doi.org/10.1016/j.brainresbull.2003.12.009.

68 Mark Solms, "Neurobiology and the Neurological Basis of Dreaming" in *Handbook of Clinical Neurology Part 2, Vol. 98*, eds. Pasquale Montagna and Sudhansu Chokroverty, (Elsevier, 2011): 519, https://doi.org/10.1016/B978-0-444-52006-7.00034-4.

69 Marie Vandekerckhove and Yu-lin Wang, "Emotion, Emotion Regulation and Sleep: An Intimate Relationship," *AIMS Neuroscience* 5, no. 1 (2018): 1, https://doi.org/10.3934/Neuroscience.2018.1.1.

child such as Alan Siegel's Nightmare Remedies. Siegel's model is a four-step process for "transforming nightmares" that can be used by children and adults.[70] They also include interventions a therapist might use with an epileptic client suffering from PTSD, such as imagery rehearsal therapy.[71] This is a cognitive-imagery approach that has been used successfully to treat nightmares in trauma survivors.

Epilepsy, Dreams, and Spiritual Experience

Recent decades have witnessed a sea change in our understanding of the relationship between epilepsy and spirituality. Forces driving this change include greater awareness of multi-cultural influences, new diagnostic paradigms of epileptic spiritual experience, and a growing interest in spirituality in modern healthcare. Spirituality has been found to have a significant impact on physical, mental, and social health,[72] yet is often inadequately addressed in medical practice.[73]

While epilepsy has long been associated with the supernatural, there appear to be few studies on spiritual content in the dreams of epileptics. Recent research suggests correlations between seizure related spiritual experience in epileptics and the spiritual experiences of non-epileptics. Neurological studies, for example, have found that epileptic (ecstatic) spiritual experiences affect the activity of the insula while stimulation of the insula produces spiritual experience in non-epileptics.[74] De la Chapelle et al. note that dreams commonly found in the general popu-

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[70] Alan B. Siegel, *Dream Wisdom: Uncovering Life's Answers in Your Dreams* (San Mateo, CA: Celestial Arts, 2002).

[71] Barry Krakow and Antonio Zadra, "Clinical Management of Chronic Nightmares: Imagery Rehearsal Therapy," *Behavioral Sleep Medicine* 4, no. 1 (2006): 45, https://doi.org/10.1207/s15402010bsm0401_4.

[72] Zachary Zimmer et al., "Spirituality, Religiosity, Aging and Health in Global Perspective," *SSM - Population Health* 2 (2016): 373, https://doi.org/10.1016/j.ssmph.2016.04.009.

[73] Darpan Kaur Mohinder Singh and Shaunak Ajinkya, "Spirituality and Religion in Modern Medicine," *Indian Journal of Psychological Medicine* 34, no. 4 (2012): 399, https://doi.org/10.4103/0253-7176.108234.

[74] Markus Gschwind and Fabienne Picard, "Ecstatic Epileptic Seizures," *Frontiers in Behavioral Neuroscience* 10, no. 21 (2016): 1, https://doi.org/10.3389/fnbeh.2016.00021.

lation can be very similar to epileptic auras, "suggesting the involvement of common brain networks in the two phenomena."[75]

There are several types of epileptic experience associated with spirituality that may be reflected in dream content: ecstatic seizures, prophetic or precognitive dreams, spiritual auras, and post-ictal religious experience. Ecstatic epilepsy may help to explain epilepsy's long association with the spiritual. This is a type of focal epilepsy in which the aura (the beginning of the seizure) consists of profoundly positive feelings. Gschwind and Picard write: "ecstatic auras provoke feelings of well-being, intense serenity, bliss, and 'enhanced self-awareness. They are associated with the impression of time dilation, and can be described as a mystic experience by some patients.'"[76] Dostoevsky wrote the first detailed description of ecstatic seizures in his novel *The Idiot*. Research suggests these seizures occur in only a small percentage of epileptics; however, they may be underreported. Ecstatic seizures share many qualities of impactful or "big" dreams.

Prophetic and precognitive dreams have long played a role in religion and have been associated with spiritual experiences. Research has found psi-related experience to be correlated with TLE. However, limbic temporal lobe psi phenomena have also been found during dreaming of non-epileptics.

Seizure-related spiritual experiences occur most often in people with TLE[77] and may be incorporated into epileptic dreams.[78] Temporal lobe discharge associated with epileptic "religiosity" has also been found in the altered states of consciousness of shamanic healers.[79] While ecstatic auras occur at the onset of seizures, epilepsy-related conversion experiences occur most often in TLE following seizures (post-ictal).[80] This suggests that an epileptic spiritual experience can have a lasting impact

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75 de Chapelle et al., "Relationship," 6.

76 Gschwind and Picard, "Ecstatic," 1.

77 Orrin Devinsky and George Lai, "Spirituality and Religion in Epilepsy," *Epilepsy and Behavior* (May 2008): 636, https://doi.org/10.1016/j.yebeh.2007.11.011.

78 de la Chapelle et al., "Relationship."

79 Michael Winkelman, "Shamanism, Psychedelics, and the Alteration of Consciousness," in *Stanley Krippner: A Life of Dreams, Myths and Visions*, eds. Jeannine Davies and Daniel Pitchford (Colorado Springs, CO: University Professors Press 2015): 77.

80 Devinsky and Lai, "Spirituality," 636.

on the spirituality of epileptics. Research has found improved quality of life is significantly predicted in epileptics by spirituality scores in Awe and Transcendence (World Heath Organization QOL, WHOQOL 100).[81]

Seizure-related spiritual experiences are poorly understood. Future dream research into the spiritual content of epileptic dreams could help us better understand these experiences, their relationship to the dreams of non-epileptics, and their impact on the spirituality and quality of life of people with epilepsy.

Western medicine has focused on epileptic spiritual experience as symptomatic of pathology. According to Spiers, "The Medical Model has historically characterized epileptic spiritual experience as delusional or hallucinatory 'hyper-religiosity.'"[82] The term "hyper-religiosity" is used in Western medicine to describe epileptic behavior changes considered extreme or out of balance compared to norms. While it is important for healers to identify unbalanced behaviors that interfere with healthy function, the term "hyper-religiosity" is problematic as both the concepts of religiosity and balance are subject to significant cultural variation.

Spiritual experiences are shaped by cultural perceptions, religious traditions, and subjective differences. One culture's shaman is another culture's psychotic. Devinsky notes: "Normal function is culturally defined and varies radically."[83] He asserts that neuropsychiatry in Western medicine, "focuses almost exclusively on hyper-function, although hypo-function is probably of equal interest and importance, but is unrecognized."[84] Thus "hyper-religiosity" would be considered pathological, but a lack of interest in or experience of religion or spirituality would be considered normal. In contrast, many cultures employ spiritual practices that foster intense spiritual experiences (such

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[81] Anna R. Giovagnoli, Rute F. Meneses, and Antonio Martins da Silva, "The Contribution of Spirituality to Quality of Life in Focal Epilepsy," *Epilepsy and Behavior* 9, no. 1 (August 2006): 133, https://doi.org/10.1016/j.yebeh.2006.04.002.

[82] Louise Spiers, "Dreamy States and Cosmic Wanderings: An Autoethnographic Narrative of Spiritual Experiences in Epilepsy," *Departures in Critical Qualitative Research* 10, no. 1 (2021): 50, https://doi.org/10.1525/dcqr.2021.10.1.50.

[83] Devinsky and Lai, "Spirituality," 637.

[84] Devinsky and Lai, "Spirituality," 637.

as sweat lodges, fasting, prolonged isolation, and the ceremonial use of hallucinogens).[85] In these cultures an epileptic with intense religious experience (including spiritual dreams) might be considered normal, or even gifted. As important, cultures that embrace intense religious states are likely to provide containers for these experiences. These containers might include religious narratives, communal gatherings, rituals, dream interpretation, methods for spiritual discernment, spiritual vocations, spiritual dire pctors, guides, and healers. Containers can help the individual connect their experience with the larger communal narrative.

A failure to take these cultural and personal differences into account can have negative consequences.[86] New paradigms for "hyperreligiosity" have been suggested. Based on the results of their research, Dolgoff-Kaspar et al. suggest that the spirituality of epileptics with frequent numinous auras is "an experiential, personalized, and atypical form, which may be distinct from traditional, culturally based religiosity" and is "better described by the term *cosmic spirituality* than hyperreligiosity."[87] Spiers suggests an autoethnographic narrative to describe and analyze the spiritual experiences of epileptics from a nonmedical perspective.[88]

An Ancient Disease in a Modern World: Technology, Epilepsy, and Dreams

The modern world presents both unprecedented challenges and opportunities for epileptics at a time when epilepsy cases are rising. The United States reports significant incidence increases in both children

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85 Devinsky and Lai, "Spirituality," 637.

86 The book by Anne Fadiman, *The Spirit Catches You and You Fall Down: A Hmong Child, Her American Doctors, and the Collision of Two Cultures* (New York: Farrar, Straus and Giroux, 2012) provides a powerful account of how a cultural clash can impact epileptics and their families.

87 Rima Dolgoff-Kaspar et al., "Numinous Like Auras and Spirituality in People with Partial Seizures," *Epilepsia* 52, no. 3 (2011): 640, https://doi.org/10.1111/j.1528-1167.2010.02957.x.

88 Spiers, "Dreamy States," 50.

and adults,[89] and Korea is seeing an increase in epilepsy among the elderly.[90] There has also been a significant rise in epilepsy mortality rates in the USA (98.8% between 1999 and 2017) at a time when deaths due to any cause declined 16.4%.[91] These increases are troubling given the significant treatment gap in epileptic care globally. Over 50 million people worldwide have epilepsy. Over 80% of these people live in low- and middle-income countries where people have limited access to ASMs or surgical treatment. There are also considerable disparities in epilepsy treatment in high-income countries.[92] A consistent finding across regions is that the most vulnerable people have the least access to treatment.

In light of the increasing numbers of epileptics and the significant treatment gap in epileptic care, we face a dual challenge. On the one hand, we need to bridge the treatment gap and expand care options. Technology provides numerous resources to help with this. On the other hand, we need to make our world more epilepsy friendly. To do this we need to understand the challenges epileptics face in a modern world.

Our Changing Relationship with Light: technology, sleep, and dreams

Change in our light environment is one of the most significant environmental factors impacting sleep, dreaming, and epilepsy. Modern technology has radically altered the way we experience light. A. Fisk et al. write: "Extended periods of abnormal light exposure can result in circadian disruption, which has been implicated in changes in metabo-

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[89] Christopher M. Degiorgio et al., "Why Are Epilepsy Mortality Rates Rising in the United States? A Population-Based Multiple Cause-of-Death Study," *BMJ Open* 10, no. 8 (2020): 35767, https://doi.org/10.1136/bmjopen-2019-035767.

[90] Ji Ye Jeon et al., "Increasing Trends in the Incidence and Prevalence of Epilepsy in Korea," *Journal of Clinical Neurology (Korea)* 17, no. 3 (2021): 393, https://doi.org/10.3988/jcn.2021.17.3.393.

[91] Degiorgio et al., "Why Are Epilepsy," 35767.

[92] Jacob Pellinen, "Treatment Gaps in Epilepsy," *Frontiers in Epidemiology* 2 (August 2022): 976039, https://doi.org/10.3389/fepid.2022.976039.

lism, sleep, and cognition."[93] Anything that negatively impacts sleep can influence dreaming and increase seizure activity in epileptics.

Electronic devices emitting blue light (cell phones, tablets, laptops) can significantly affect melatonin and circadian rhythms.[94] These changes have some impact on everyone; but can be particularly problematic for epileptics. Circadian rhythm influences both the timing and severity of seizures. Curiously, it can also affect the efficacy of ASMs. Studies have found that the time when an ASM is taken (morning, evening) can improve seizure control.[95] Circadian-driven fluctuations also impact dreaming and have been found to correlate with changes in the central characteristics of dream reports.[96]

The prevalence of flickering light is another change in our light environment that is problematic for people with photosensitive epilepsy. This is a type of epilepsy in which seizures are triggered by flashing or flickering lights (usually at high intensity) or contrasting light and dark patterns. Photosensitive epilepsy is most common in children and youth. Electronic devises prevalent in modern life can provoke seizures in epileptics. TVs, computer games, electronic instruments with flickering displays, strobe lighting and faulty fluorescent lighting are all common triggers.[97]

While photosensitive epilepsy makes up only 5% of epileptics, recent research suggests flickering light may have a broader impact.[98] R.

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[93] Angus S. Fisk et al., "Light and Cognition: Roles for Circadian Rhythms, Sleep, and Arousal," *Frontiers in Neurology* 9 (2018): 1, https://doi.org/10.3389/fneur.2018.00056.

[94] Eric Suni and Abhinav Singh, "Light & Sleep: Effects on Sleep Quality," Sleep Foundation, accessed November 8, 2023, https://www.sleepfoundation.org/bedroom-environment/light-and-sleep.

[95] Bo Jin et al., "Epilepsy and Its Interaction with Sleep and Circadian Rhythm," *Frontiers in Neurology* 11 (May 8, 2020): 330, https://doi.org/10.3389/fneur.2020.00327.

[96] Erin J. Wamsley et al., "Circadian and Ultradian Influences on Dreaming," *Brain Research Bulletin* 71, no. 4 (January 9, 2007): 347, https://doi.org/10.1016/j.brainresbull.2006.09.021.

[97] The Epilepsy Foundation has specific recommendations for the frequency, intensity and types of patterns that are safe for photosensitive epileptics (Epilepsy Foundation, "Shedding Light on Photosensitivity, One of Epilepsy's Most Complex Conditions," accessed November 10, 2023, https://www.epilepsy.com/stories/shedding-light-photosensitivity-one-epilepsys-most-complex-conditions-0).

[98] Antonio Martins da Silva and Bárbara Leal, "Photosensitivity and Epilepsy," *Seizure* 27 (2017): 209, https://doi.org/10.1016/j.seizure.2017.04.001.

Inger et al. report: "flickering light has been shown to have detrimental effects in humans and other species."[99] Animal studies have found light flicker influences "behavioural and movement patterns, visual systems and levels of stress."[100] Research that helps us to understand the impact of artificial light sources on epileptic sleep and dreaming may help us adapt technology to the health needs of individuals, and the wellbeing of our own and other species.

Stigma and fear of seizure onset can lead to social isolation and increase the risk of depression in epileptics.[101] Changes in our light environment can increase social isolation for people with epilepsy. Epileptics may need to avoid light environments (theater and social events with strobe lights, stores with faulty fluorescents) and activities (such as video games) that can trigger seizures. The dream content of epileptics reflects this experience of isolation. Bentes writes: "Social isolation, absence of future perspectives, and quality of life seem to be reflected in the dream content of patients with TLE."[102] The trend toward higher familiarity in characters found in epileptic dream content may also reflect social isolation.[103] Dream sharing may help forge social connections and reduce isolation. The dreams of a person with epilepsy carries the emotional weight of their experience of seizures but will also reflect the daily concerns, emotional valence, and search for meaning present in the dreams of non-epileptics. Dream sharing may potentially provide common ground and a space to heal internalized stigma.

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[99] Richard Inger et al., "Potential Biological and Ecological Effects of Flickering Artificial Light," *PLoS ONE* 9, no. 5 (May 29, 2014): 98631, https://doi.org/10.1371/journal.pone.0098631.

[100] Inger et al., "Potential Biological."

[101] Chrysanthi Papoutsi et al., "Interrogating the Promise of Technology in Epilepsy Care," *Sociology of Health and Illness* 11 (2021): 929, https://doi.org/10.1111/1467-9566.13266.

[102] Carla Bentes et al., "Dream Recall Frequency and Content in Patients with Temporal Lobe Epilepsy," *Epilepsia* 52, 11 (2011): 2022–27, https://doi.org/10.1111/j.1528-1167.2011.03290.x.

[103] Bentes et al., "Dream Recall," 2022.

The Promise of Technology

Technology presents challenges for epileptics but also promises resources. Technological advances in neurosurgery are particularly exciting. Implantable antiepileptic devices promise to benefit the 25% of epileptics whose seizures cannot be controlled by ASMs.[104] Researchers are currently developing devices that can be implanted in patients with memory disorders.[105] The robotic insertion of electrodes, and the use of computer programs to analyze surgical outcomes and predict treatment strategies can improve surgery outcomes.[106]

There are a number of apps that may help improve sleep and dream recall, including apps designed to reduce sleep problems and nightmare disorder, anxiety reduction apps, and apps that facilitate dream journaling. There are numerous apps and wearable devices that can help epileptics track sleep, seizures, and set reminders for taking medication. Wearable seizure detection devices, monitors, and alerts are a rapidly expanding area of research and production.[107] Digital seizure diaries can be helpful in tracking and sharing information about seizures, triggers, medications, and appointments.

Telemedicine makes both medical and therapeutic care more available to epileptics, can facilitate medication adherence, and communication with healthcare providers. [108] This is of particular importance for epileptics who live in areas without public transit, or rural areas lacking access to physicians and therapists. Currently, disparities in access to technology limit the use of telemedicine for many who might benefit.

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[104] William C. Stacey and Brian Litt, "Technology Insight: Neuroengineering and Epilepsy – Designing Devices for Seizure Control," *Nature Clinical Practice Neurology* 4, no. 4 (2008): 190, https://doi.org/10.1038/ncpneuro0750.

[105] UCLA Health. "Finding a Way."

[106] Mauricio Medina-Pizarro, Dennis D. Spencer, and Eyiyemisi C. Damisah, "Recent Advances in Epilepsy Surgery," *Current Opinion in Neurology* 36, no. 2 (2023): 95, https://doi.org/10.1097/WCO.0000000000001134.

[107] Guidelines for using seizure detection devices can be found at Epilepsy Foundation, "Role of Seizure Alerts," accessed November 10, 2023, https://www.epilepsy.com/complications-risks/early-death-sudep/role-seizure-alerts.

[108] Francesco Brigo et al., "Telemedicine and the Challenge of Epilepsy Management at the Time of COVID-19 Pandemic," *Epilepsy and Behavior* (2020): 1, https://doi.org/10.1016/j.yebeh.2020.107164.

There are a number of ways in which technology can help researchers interested in studying epileptic dreams. Wearable devices that detect seizures and sleep stages, and digital seizure diaries when combined with dream journaling could help researchers correlate dream content with seizure activity. Technological resources such as DreamSAT, which facilitates automated data entry and statistical analysis, and the Sleep and Dream Database (SDDb), which provides an archive of dream reports as well as a word search tool, make dream research more accessible to both researchers and healthcare providers.

Conclusion

This article has, admittedly, covered a lot of ground. A survey of recent studies on sleep, epilepsy, and dreams affords insight into the protective role of REM, and the impact of circadian fluctuations on seizures and dreaming. Research on epileptic dream content sheds light on the vivid, intense, nightmarish and, at times, sublime inner experience of people with epilepsy. While providing an overview of recent studies, this article has also examined the concerns of epileptics in the modern world for which as yet we have little research. I believe that dream research has the potential to facilitate diagnosis, decrease stigma, improve understanding of epilepsy among healthcare providers, and increase epileptics' own self-understanding of their disease, their spirituality, and their place in the world.

In conclusion I would like to share an excerpt from an epileptic's dream. The dreamer is a woman with photosensitive TLE. She writes: "I dream I'm on top of a mountain. I'm confused and going into a seizure. I need someplace safe to hide. I run to the very edge of the mountain. By now I'm numb and can't talk. Suddenly I'm thirsty. I see a beautiful faceted crystal goblet with light flashing from it. I drink the light. Now I'm drunk but there's nowhere to lie down. I want someone to help me but no one sees me. I have no words. I'm light-headed. Then my head is empty. Then I'm alone in the dark."

The dream reflects seizure symptoms (numbness, aphasia, confusion), the dreamer's complex relationship with light, sense of isolation, and need to hide. It is my hope that we can make our world a place

where epileptics feel seen, where it is safe to ask for help, and where no one is left alone in the dark.

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