



A Night Without Sleep: A Reflection on Vigilance, Care, and the Biological Mind in a Hospital Setting

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Abstract

A single night in a hospital, spent accompanying a child, can reveal a complex interaction between biological rhythms, environmental unfamiliarity, and emotional attachment. This reflective commentary examines the experience of being physically exhausted yet unable to sleep in a hospital environment. Drawing on insights from sleep science, psychology, and ecological thinking, this reflection paper explores how unfamiliar environments trigger vigilance, how parental concern sustains cognitive alertness, and how the human brain resists rest when responsibility is perceived. Integrating evidence on sleep deprivation in hospital settings, this paper argues that sleeplessness is not merely a disturbance but a biologically and contextually grounded adaptive response.

Keywords: Sleep Disturbance; Vigilance; Hospital Environment; Parental Care; Ecological Perspective

Introduction

Now it is 3.35 AM. I am sitting in a hospital room (Figure 1), writing this paper, not out of plan or academic schedule, but because I could not sleep, even though I am deeply tired. The body is exhausted, the eyes are heavy, yet sleep does not come. I do not know why. That simple question, quiet yet persistent, becomes the starting point of this reflection.

Figure 1 shows the entrance area of Bay 4 within a hospital clinical ward. The bay is identified by a clearly visible wall-mounted sign labelled "Bay 4," facilitating patient location, staff communication, and ward organization. In the foreground, intravenous (IV) fluid bags containing normal saline (0.9% NaCl) are suspended from an IV stand, indicating the provision of fluid therapy or medical treatment to patients within the bay. A hand hygiene poster is also visible on the wall, emphasizing the importance of infection prevention and adherence to healthcare safety protocols. The figure illustrates a typical inpatient care environment where patient management, treatment administration, and infection control measures are integrated into daily clinical practice.

Moments like this do not arise in the comfort of routine. They emerge in spaces that feel unfamiliar, where time moves differently and the mind refuses to settle. The hospital environment, with its subdued lighting, distant sounds, and constant awareness of care and uncertainty, creates a setting where rest is expected, yet rarely achieved. In such a space, the body lies down, but the mind remains awake, attentive, and searching.

Sleep is often described as a fundamental biological necessity, yet it is not always guaranteed even under conditions of extreme fatigue [9, 10]. The paradox of being deeply tired but unable to sleep is a familiar human experience, particularly in emotionally charged environments such as hospitals. In such settings, the body's need for rest may conflict with the mind's need to remain alert. Khan and Al-Jahdali (2023) reviewed the effects of sleep deprivation on cognitive functioning and reported that insufficient sleep adversely affects attention, vigilance, working memory, executive function, decision-making, reaction time, and learning capacity. The authors highlighted that sleep deprivation impairs both short-term cognitive performance and long-term neurological health, with consequences extending to academic achievement, occupational productivity, healthcare performance, and public safety. Their review further emphasized that adequate sleep is essential for memory consolidation, emotional regulation, and optimal brain function, making sleep preservation an important public health and clinical priority.

This reflection emerges from a personal experience of spending a night in a hospital while accompanying my daughter. Despite physical exhaustion, sleep did not come. The experience prompted a deeper consideration of how environmental unfamiliarity, emotional responsibility,



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and biological mechanisms intersect to shape human behaviour. Rather than viewing the inability to sleep as a simple disturbance, this paper interprets it as an adaptive response grounded in evolutionary biology and psychological processes.

Sleep, therefore, is not governed by fatigue alone. It depends on a delicate balance between physiological readiness, environmental familiarity, and emotional state. When this balance is disrupted, even exhaustion cannot guarantee rest. This reflection is written not from a position of distance, but from within the experience itself. It captures a moment where biology, environment, and emotion converge, and where the absence of sleep reveals something deeper about the human condition.

The Hospital as an Ecological System of Disturbance

From an ecological perspective, organisms respond continuously to changes in their environment. A hospital room represents a sudden shift from familiar surroundings to a controlled yet unfamiliar system. The lighting, sounds, smells, and spatial arrangement differ significantly from the home environment. Such changes can be interpreted by the brain as ecological disturbance.

Figure 2 shows a sofa within a hospital ward that served as a temporary sleeping place during the first night of hospitalization. The sofa, equipped with several cushions, reflects the reality experienced by many family members, caregivers, or accompanying relatives who remain close to their loved ones throughout treatment and recovery. Although not designed as a conventional bed, the sofa provided a place for rest during a period of uncertainty, concern, and emotional adjustment. The image symbolizes the often-overlooked experiences of caregivers in healthcare settings, highlighting themes of resilience, family support, sacrifice, and the importance of maintaining a physical presence alongside patients during their hospital stay.

Empirical studies confirm that hospital environments inherently disrupt sleep through noise, light exposure, frequent vital-sign assessments, medical procedures, staff movements, alarms, and nighttime clinical interruptions, particularly during routine patient care activities [2, 3]. These disturbances alter circadian rhythms and fragment normal sleep architecture, reducing the duration of deep and rapid eye movement (REM) sleep that are essential for physiological recovery, cognitive restoration, and immune regulation [9, 10]. Such sleep disruption contributes to what has been described as “hospital toxicity,” whereby environmental stressors within healthcare settings adversely affect patient well-being and recovery outcomes [5].

Research on sleep further demonstrates the “first-night effect,” in which one hemisphere of the brain remains more vigilant during sleep when an individual is exposed to a novel environment [8]. This adaptive mechanism likely evolved to enhance survival in unfamiliar surroundings by maintaining partial environmental monitoring. In ecological terms, this resembles a sensitive bioindicator organism entering a new habitat where survival depends upon heightened responsiveness to environmental cues [4]. Thus, the inability to sleep in a hospital is not merely a matter of discomfort but represents a biologically meaningful response to environmental unfamiliarity, uncertainty, and perceived vulnerability.

Vigilance and the Burden of Care

Beyond environmental factors, the emotional context plays a critical role. Accompanying a child in a hospital introduces a layer of



Figure 1: Bay 4 in a Hospital Clinical Ward.



Figure 2: First Night Sleeping on a Sofa in the Hospital Ward.

responsibility that is deeply rooted in parental biology and psychology. Even in the absence of overt anxiety, the mind remains engaged in continuous monitoring of the child's condition, surroundings, and potential needs. This heightened awareness reflects an adaptive caregiving response that prioritizes protection and attentiveness over personal comfort.

Psychological and developmental research indicates that emotional attachment, caregiving responsibility, and concern for loved ones can sustain cognitive and physiological arousal, thereby preventing the transition into restful sleep [1, 6]. The brain remains partially active, continuously scanning for signs of change, distress, or potential threats. Such hyperarousal may persist despite profound physical exhaustion, explaining the paradoxical experience of being extremely tired while remaining unable to sleep.

At a broader level, vigilance is also fundamental to hospital functioning. Sleep deprivation has been shown to impair attention, vigilance, reaction time, working memory, executive function, and decision-making capacity [7]. Among healthcare professionals, insufficient sleep can increase the risk of medical errors and reduce clinical performance, particularly during prolonged shifts and nighttime duties [3]. This observation highlights an important parallel. Whether parent or clinician, the human biological system prioritizes awareness and responsiveness in environments where outcomes matter and where another person's well-being depends upon one's attention.

Thus, the inability to sleep reflects a shared biological logic. When care is required, vigilance is maintained, often at the expense of rest. Although this response may lead to temporary fatigue and sleep loss, it represents a deeply embedded adaptive mechanism shaped by

evolutionary pressures favouring protection, caregiving, and survival.

The Paradox of Exhaustion Without Sleep

The experience of being “too tired to sleep” highlights a mismatch between physiological and neurological states. While the body signals the need for rest, the brain remains in a state of heightened arousal. This phenomenon is particularly common during emotionally significant events, unfamiliar surroundings, and situations involving uncertainty or concern for loved ones.

This condition aligns with the hyperarousal model of insomnia, where increased cognitive, emotional, and physiological activation prevents the onset and maintenance of sleep [6]. Hyperarousal is characterized by persistent vigilance, elevated sympathetic nervous system activity, and heightened awareness of environmental stimuli. In hospital settings, this state may be intensified by continuous lighting, medical equipment alarms, staff movements, conversations, unfamiliar sleeping arrangements, and concerns regarding the health of family members [2, 3].

Clinical evidence demonstrates that even a single night of inadequate sleep can negatively affect attention, memory, executive functioning, decision-making, and emotional regulation [7]. Sleep deprivation also impairs immune function, increases susceptibility to infection, elevates inflammatory responses, and delays physical recovery processes [10]. For hospitalized individuals, disrupted sleep has been associated with prolonged recovery times, increased stress, and reduced patient well-being [3, 5]. Furthermore, the unfamiliarity of a new sleeping environment can activate a phenomenon known as the “first-night effect,” during which one hemisphere of the brain remains more vigilant than the other, functioning as a protective mechanism against potential threats [8].

Yet, paradoxically, the same biological system that requires sleep actively resists it under perceived uncertainty. From an evolutionary perspective, this response is adaptive. Throughout human history, sleeping deeply in unfamiliar or potentially dangerous environments could increase vulnerability. Consequently, the brain prioritizes vigilance over rest until environmental conditions are interpreted as safe. This tension reflects a deeper principle: the body does not simply seek rest. It seeks safety first. When safety is uncertain, rest is postponed.

Sensitivity as Strength: An Ecological Analogy

It is tempting to interpret difficulty in adapting to new environments as a limitation. However, ecological science offers a different perspective. Sensitive organisms often respond rapidly to environmental disturbances and therefore serve as valuable bioindicators and biomonitors of ecosystem condition [4]. Their sensitivity provides information about environmental quality long before visible ecological damage becomes apparent.

Similarly, heightened awareness in unfamiliar or emotionally significant situations may reflect adaptive sensitivity rather than weakness. The inability to sleep in a hospital environment can be interpreted as a manifestation of a highly responsive biological system that continuously evaluates environmental and emotional cues. Just as biomonitor organisms detect subtle changes in pollution levels, human neurophysiological systems detect subtle changes in safety, uncertainty, and emotional significance.

In this sense, the sleepless night reflects a system functioning as it evolved to function. It detects change, prioritizes vigilance, and delays complete relaxation until conditions are perceived as sufficiently stable. What appears to be a limitation may instead represent a protective mechanism shaped by millions of years of evolutionary adaptation.

Reflection: Between Biology and Meaning

This experience of sleeplessness invites reflection on the intimate relationship between biology and meaning. The body does not operate independently of context. Rather, physiological processes are profoundly influenced by environmental conditions, emotional states, social relationships, and personal significance.

Hospitals are designed to promote healing, yet many characteristics of hospital environments inadvertently disrupt natural biological rhythms. Noise from medical equipment, nighttime clinical procedures, artificial lighting, and interruptions for patient monitoring frequently reduce sleep quality among patients and caregivers [2, 3]. Such disturbances contribute to what has been termed “hospital toxicity,” where environmental and procedural stressors negatively influence patient outcomes and recovery [5]. Studies have therefore emphasized the importance of improving nighttime hospital environments through noise reduction, lighting management, and sleep-promoting care practices [2, 3].

Beyond these structural considerations lies a more personal dimension. The act of remaining awake beside a loved one carries meaning that transcends biological processes. It represents care, responsibility, concern, and presence. While the body experiences fatigue, the mind remains attentive because the situation is emotionally important. In many ways, the sleepless night becomes an expression of human connection rather than merely a physiological event.

Even without complete sleep, the body may achieve partial rest while the mind remains engaged in quiet vigilance. This state reflects not failure but commitment. The first night on a hospital sofa therefore becomes more than an episode of sleep disruption. It becomes a reminder that human beings are biological organisms whose physiology remains deeply intertwined with relationships, emotions, and meaning. The inability to sleep fully is not necessarily a sign of dysfunction. Sometimes it is evidence that the brain is performing one of its oldest and most important tasks: protecting what matters most.

Conclusion

The inability to sleep despite physical exhaustion in a hospital setting is not merely a disturbance. It is a complex interaction between environmental disruption, emotional attachment, and biological vigilance. Scientific evidence demonstrates that hospital environments inherently challenge sleep, while psychological and evolutionary mechanisms sustain alertness in contexts of care. From an ecological perspective, this state represents adaptation rather than dysfunction. Ultimately, the sleepless night becomes more than a personal experience. It becomes a reflection of the human condition, where biology, environment, and meaning converge. In such moments, the body may resist sleep, not because it is incapable, but because it understands that staying awake matters.

Declaration on the Use of Artificial Intelligence

The author declares that generative artificial intelligence tools were used in a supportive capacity during the preparation of this manuscript. These tools assisted with language refinement, structural organisation, and stylistic clarity of the text. All ideas, interpretations, reflections, and conclusions presented in this paper are the author's own and are grounded in personal experience and scholarly judgment. The author retains full responsibility for the content, accuracy, originality, and integrity of the manuscript.

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