

Sleep Disturbances and Bipolar Disorder: Patterns, Clinical Risks, and Therapeutic Approaches

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ABSTRACT: Bipolar Disorder (BD) is a lifelong psychiatric condition characterized by recurrent episodes of mania and depression that are strongly associated with disruptions in sleep patterns. Sourcing recent studies on correlations between BD and sleep by utilizing keyword searches, this review examines evidence on the relationship between sleep disturbances and BD, emphasizing how patterns of sleep disruptions, associated clinical risks, and emerging therapeutic approaches shape understanding of the role sleep plays in diagnosis, symptom severity and at-risk individuals. Research reveals that sleep disturbances are associated with greater mood instability, elevated suicide risk and poorer clinical outcomes, particularly in adolescents with BD or those who are at risk of developing BD from a diagnosed parent, suggesting that sleep disturbances may be a potential early marker of illness susceptibility. This review also highlights treatment interventions that target sleep regulation, including behavioral therapies, light therapy, and pharmacological approaches, which may improve symptom severity and reduce relapse. Lastly, based on the evidence provided, this paper suggests that increased sleep may lessen the severity of BD symptoms and thus warrants further targeted research. Though current studies support a strong bidirectional link between sleep and BD, continued long-term research will help clarify causality and refine sleep-focused interventions for BD.

KEYWORDS: Bipolar Disorder, Sleep Disturbances, Insomnia, Circadian Rhythm, Sleep Cycle, Suicide Risk, Adolescent Mental Health

Introduction

Bipolar Disorder (BD) is a psychiatric condition in which disturbances in mood are closely intertwined with disruptions in typical sleep patterns. BD, including type I and type II, is associated with recurrent episodes of depression and mania that affects 1% of the global population, with 45% of cases experiencing an early onset around the age of 17 (Vincenzo et al., 2025). As a complex condition with symptoms similar to those of other mental disorders, there are difficulties in diagnosing and treating people with BD, which often leads to misdiagnosis. Patients are considered to have the disorder when they experience at least one episode of mania or hypomania. In BD I, this is a manic episode, while in BD II, this is a hypomanic episode. A manic episode is a week-long period characterized by an irritable mood, increased energy, little sleep, racing thoughts, distractibility, and risk susceptibility. Hypomanic episodes comprise nearly the same symptoms but instead last for approximately four days. Depressive episodes are also common among patients with BD, though not required for diagnosis. Depressive episodes that people with BD experience are often identical to those that people with major depressive disorder endure, which can cause inaccurate or delayed diagnoses. Moreover, 65% of people with BD also meet the criteria for other mental disorders like anxiety, personality disorders, substance abuse, Attention-Deficit/Hyperactivity Disorder

(ADHD), and Obsessive-Compulsive Disorder (OCD) (Vincenzo et al., 2025). With this, they typically experience increased medical problems like cardiovascular disease and diabetes—in addition to poor sleep—which can lower life expectancy.

Sleep is a fundamental biological process that plays a critical role in regulating mood, cognition, and emotional functioning. Human bodies are regulated by the circadian rhythm, an internal biological clock that operates on a roughly 24-hour cycle (Zangani et al., 2020). The circadian rhythm is what causes people to feel tired at night and energetic during the day, which means that disruptions to one's normal sleep cycle carry profound impacts, particularly in relation to mental health conditions like BD. Sleep comprises different stages: non-rapid eye movement (NREM) sleep and rapid eye movement (REM) sleep. NREM sleep includes stage 1 (N1), stage 2 (N2), and stage 3 (N3) (Zangani et al., 2020). N1 is brief, and people may experience the sensation of falling or floating weightlessly. N2 lasts for about 20 minutes, and people clearly appear to be asleep, but they are easily woken up. N3 lasts for about 30 minutes and is slow-wave sleep that emits delta waves, which are large, slow brain waves that are associated with deeper sleep (Zangani et al., 2020). Then follows the REM stage, which is characterized by a higher heart rate, more rapid breathing, and eye movements behind closed eyelids approximately every thirty seconds. The REM stage is when dreams occur. REM is also called paradoxical sleep because the skeletal muscles are extremely relaxed, but the body systems are active. This cycle repeats every 90 minutes, but as the night progresses, N3 disappears and the duration of N2 and REM increases (Zangani et al., 2020). Understanding the normal regulation of sleep provides a foundation for examining how its disruption contributes to, and exacerbates, BD.

Sleep disturbances are a well-known feature of BD, yet the precise role that sleep plays in the onset, progression, and clinical management of BD remains an active area of research. Linked not only to manic and depressive episodes, sleep disruption has also shown correlation with BD symptom severity, relapse, and suicide risk, suggestive of poorer long-term outcomes for diagnosed patients. At the same time, emerging evidence suggests that poor sleep may elevate the risk of developing BD in certain individuals, raising the possibility that sleep may serve as an early clinical marker and a target for intervention for the illness. This paper therefore presents an overview of the relationship between sleep and BD—considering what recent studies reveal about patterns of sleep disturbances, related clinical risks, and therapeutic approaches—as well as evaluates whether sleep-focused treatments may help improve clinical outcomes for BD patients and inform future research.

Demonstrated Correlations between Bipolar Disorder and Quality of Sleep

Sleep disturbances in BD mood states

Sleep disturbances persist throughout the various mood states of BD—which include mania, depression, and euthymia—with 60% of patients experiencing such disturbance during manic episodes and 20% during depressive episodes (Zangani et al., 2020). Across each of these states, patients usually experience a decreased need for sleep, which is also a criterion for diagnosis of BD. Moreover, sleep disturbances are prodromal symptoms for mood episodes, which are longer periods of sustained emotional highs and lows. After a depressive episode, sleep onset latency (SOL) and total sleep time varied more between patients than in the control group (Zangani et al., 2020). During a depressive episode, there is greater rapid REM density, longer SOL, early awakening, and a low number and density of sleep spindles, which are burstlike signals in the electroencephalogram (EEG) of the sleeping mammalian brain and electrical surface correlates of neuronal oscillations in the thalamus (Fernandez et al., 2019). On the other hand, manic episodes include lower

sleep efficiency, longer sleep latency, and reduced total sleep duration. Euthymic patients experience increased awakening, different sleep-wake patterns, and differences in latency. This suggests that sleep disturbances are a core characteristic of BD and may contribute to the onset, persistence, and recurrence of mood episodes.

Insomnia in particular—the chronic inability to fall or remain asleep—is also a common symptom of BD, with 70% of people with BD reporting insomnia and 25% reporting hypersomnia (Kaplan, 2020). Insomnia most often occurs with people who have BD II, while hypersomnia often occurs with people who have BD I (Kaplan 2020). Both insomnia and the reduced need for sleep are the most prevalent prodromal symptoms for manic episodes, while insomnia and hypersomnia are most typically experienced during depressive episodes. Insomnia can also occur in people with BD without necessarily correlating to a mood episode, which indicates that insomnia may be considered a characteristic of the disorder itself, rather than solely a symptom of such mood episodes.

The effects of BD on sleep duration, variability, and the sleep cycle

In a 2016 clinical study, Kaufmann et al. (2016) examined the relationship between sleep duration variability and mood in people with BD. The study found that greater variability in sleep duration was associated with greater fluctuations in daytime energy, depression and impulsivity, resulting in increased feelings of anger, anxiety, nervousness, impulsivity, and stress. Furthermore, individuals who got six hours of sleep or less had lower same-day positive effects and higher negative effects compared to those who got seven to eight hours of sleep. The same was true for people who got nine hours or more. Thus, seven to eight hours of sleep per night was concluded to be ideal. Furthermore, with more variability in the duration of an individual's sleep, there is a higher likelihood of having lower same-day energy levels and heightened effects of depression and sadness (Kaufmann et al., 2016).

Studies have found that BD impacts the sleep cycle as well, with a greater percentage of light sleep (N1) and restorative deep sleep (N3) occurring during manic episodes, and less intermediate sleep (N2), non-rapid eye movement sleep (NREM), and slow-wave sleep in the depressed stages (Zangani et al., 2020). In fact, people with BD experience greater variability in N1 sleep when compared to the average person. BD affects REM sleep because patients spend a greater proportion of total sleep time in REM sleep, and the duration of the first REM period is positively correlated with manic and other mood-related symptoms. During manic episodes, REM latency is shortened and REM density is increased, whereas depressive episodes are characterized by reduced REM efficiency. These findings suggest that alterations in REM sleep vary across mood states and may serve as markers of mood symptom severity in BD.

Sleep quality as a predictor of BD risk and mood symptoms in adolescents

Children of individuals with BD are at high risk of also being diagnosed with BD and experiencing sleep disturbances. In fact, research shows that it is 2.7 times more likely for a child whose parent(s) has BD to develop the psychiatric disorder themselves and four times more likely to develop an affective disorder (Estrada-Jaramillo et al., 2022). These children tend to have worse quality sleep, shorter total sleep time, more nightmares, and higher sleep latency than children whose parents do not have BD (Estrada-Jaramillo et al., 2022). They may additionally have abnormalities in their sleep-wake cycle. Testing found that such children tend to have shorter sleep latency, more sleep fragmentation, longer wakeful times, and more tiredness, making them more susceptible to sleep disorders because their parents have BD (Estrada-Jaramillo et al., 2022).

Beyond increasing the risk of developing BD, sleep disturbances also influence the severity and progression of mood symptoms in adolescents with BD. Poor sleep is

common, and mood symptoms like worsening depression, hypomania and suicidal thoughts and attempts have been correlated to inadequate sleep in adolescents with BD (Stepan et al., 2024). Additionally, disturbed sleep and decreased sleep can increase an adolescent's chance of developing BD in the first place—and even though BD is less common in adolescents, cases are typically more severe with high comorbidity. Due to this, adolescents are also at a much greater risk of suicide, and their symptoms of depression tend to be worse (Stepan et al., 2024). Inadequate sleep quality—including later sleep time, shorter sleep duration, and atypical sleep patterns—is also a key risk factor for adolescents with BD because adolescents typically experience less sleep during this period of their life due to external causes, such as school, extracurricular activities, and other commitments.

Stepan et al. (2024) found that sleep quality can predict future moods, and mood symptoms can affect sleep quality. In this study, an adolescent and their parents filled out a diagnostic evaluation, and then the adolescent went to a clinical interview with a psychiatrist, followed by completing a screen questionnaire. At months six, nine, and eighteen of the research, the sleep quality observed in the adolescent predicted the following months' depression and suicidal thoughts. Furthermore, sleep quality and severe depression share high correlation, and worse sleep quality typically predicts a greater severity of depression (Stepan et al., 2024).

Impact of Sleep Disruptions on Suicide Risk in Bipolar Disorder

Suicide is common among patients with BD and sleep disturbances play a role. Approximately 30 to 50% of adults with BD attempt suicide, and 5 to 20% of them commit suicide (Vincenzo et al., 2025). Patients with BD who experience sleep disturbances are, moreover, at a 20- to 30-fold increased risk of suicide compared to the general population (Goldschmied et al., 2025). Short duration of sleep, nightmares, insomnia, being tired during the day, waking up early, and being an evening chronotype (having energy during the evening and sleeping late the next day) can all contribute to suicidal thoughts and suicide attempts in BD patients. In particular, insomnia has been found to be predictive of suicide risk in BD I patients (Goldschmied et al., 2025). Additionally, individuals with BD I who have decreased chronotypes—a person's natural predisposition to the times of day they prefer to sleep and when they have the most energy—and enthusiasm to complete things are at a higher risk for suicide. An evening chronotype, and a greater evening wakefulness, are predictive of higher suicide risk in BD II patients (Goldschmied et al., 2025). This highlights a bidirectional relationship in which sleep disturbances increase suicide risk, while worsening mood symptoms further disrupt sleep in a vicious cycle.

In Stepan's study of adolescents with BD, one third of the children attempted suicide during the two years in which the study was taking place. Those adolescents had worse sleep quality than those who did not attempt suicide. It was thus concluded that sleep quality affects—and is worse months prior to—the suicide attempt (Stepan, 2024).

Current Pharmacological Treatment Approaches for Bipolar Disorder

Treating BD remains challenging due to a high rate of relapse. A 2018 study by Suzuki et al. involving 217 participants with BD presented a treatment method entailing a cycle of sleep deprivation (SD), light therapy and lithium, showing promising results: 67.7% of the participants showed positive results, and 54.4% entered remission. While SD itself can have an antidepressant effect, it is associated with an 80% chance of relapse after the first recovery sleep. Light therapy helps to prevent this relapse, while lithium helps sustain and enhance the antidepressant effect that occurs after SD. This shows that this

cycle is affected when treating BD (Suzuki et al., 2018). Additional treatments are also used to treat BD and sleep disturbances. BD patients with regular daylight exposure and less depression and insomnia symptoms overall were found to be less at risk for suicide (Goldschmied et al., 2025). Additional pharmacological treatments like hypnotic medications can help improve sleep disturbances and daytime energy, though they also can cause an increase in falls and memory impairments. There is also a high risk of these medications being abused due to their addictive calming and euphoric effects. Outside of prescribed medication, cognitive behavioral therapy (CBT) can help with regulating insomnia and sleep disturbances, while reducing the rate of relapse and improving functional areas. Studies have also found that using blue light-blocking glasses before bed can better stabilize sleep durations. (Suzuki et al., 2018).

The Importance of Sleep Regulation in Bipolar Disorder

Research indicates that poor sleep can trigger BD in at-risk individuals and, in many cases, exacerbate the severity of preexisting symptoms. Therefore, improving sleep may be an important factor in reducing the severity of BD symptoms. According to Barbini et al. (as cited in Plante & Winkelman, 2008) there is a significant correlation between sleep duration and rating of cooperation and irritability on the Nurses' Observation Scale for Inpatient Evaluation. Nowlin-Finch et al. found that a greater total amount of sleep on the first night individuals were in the hospital was correlated with an earlier discharge among patients experiencing mania (Plante et al., 2008). These findings suggest that when individuals with BD experience a longer duration of sleep, their symptoms of mania and irritability improve. While inadequate sleep is linked to worsening symptoms, increasing sleep may help lessen symptoms for some individuals, though further research is needed to determine causality and which patients benefit most.

Conclusion

Sleep disturbances are prevalent in many individuals with BD across all stages of the disorder, and individuals with BD tend to experience worse quality of sleep and irregular sleep patterns in general. These sleep disturbances, moreover, increase the likelihood of BD patients attempting and committing suicide. Children of parents with BD and a history of poor sleep are particularly at risk of developing BD and accompanying sleep disturbances, suggesting how this issue extends beyond the individual. Therefore, the importance of sleep needs to be prioritized for healthy individual development and emphasized among individuals with current or elevated risk of developing BD, particularly younger populations who may be more susceptible to severe symptoms.

Bringing focus on sleep to the fore in ongoing studies in BD may have significant impact on target approaches to prevention and early intervention of BD. Because sleep disturbances often emerge before the onset of clinically significant mood states and episodes, regulated and recurring analysis of them may provide a substantial opportunity for researchers to identify at-risk individuals before full-fledged diagnosis occurs. Extending into public health recommendations, these findings suggest that greater integration of sleep assessment into routine mental health screening and early intervention programs, particularly for adolescents and individuals with a family history of BD, would likely increase the number of individuals identified as experiencing early-onset BD or at-risk development of BD, which, in turn, may further highlight the need to generate targeted treatment options for such individuals. As research continues to clarify the relationship between sleep and BD, recognizing sleep as both a clinical symptom and potential therapeutic target may improve strategies for reducing long-term suffering among patients and caretakers.

Limitations

As already outlined, further research is needed to better understand the exact extent to which BD and sleep show bidirectional influence. Current studies establish strong correlations between sleep and BD rather than direct causation, so additional long-term studies will help clarify to what extent disrupted sleep contributes to the development and worsening of BD symptoms. Variability among individuals with BD (including BD I, BD II, age groups, medication use, etc.) also limits the current ability to make conclusive generalizations about which factors most influence sleep patterns and treatment outcomes. Lastly, many studies rely on self-reported sleep measures, which may introduce bias, thus proving the need for objective and standardized measures of sleep study data in BD patients across assessments. As an underresearched topic, this overview would benefit from future research that investigates the bidirectional link between sleep and BD, the efficacy of sleep-focused interventions as potential treatments for BD, as well as new studies that target younger and at-risk populations.

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