

Sleep & Mental Health

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Overview

- Discuss interactions between sleep and mental health:
 - The impact of psychiatric disorders on sleep
 - The impact of insomnia on mental health
 - Treatment effects on sleep and mental health

Overlap between sleep and psychiatric disorders

- Sleep issues affect 50-80% of those with psychiatric conditions (compared to 10-18% of general US population)
- As many as 2/3 of patients referred to sleep disorders centers have a psychiatric condition.

Diagnoses resulting in Chronic Insomnia

- Mood disorder
- Restless Leg Syndrome
- Psychopathic Insomnia
- Anxiety

Mechanisms

- Impact on HPA axis: Sleep loss elevating cortisol levels and reducing resiliency of the stress response
- Activation of sympathetic nervous system versus parasympathetic
- Elevations in evening cortisol impacting insulin resistance
- Reduced REM impacting cognitive and emotional processing
- Short-term increases in dopamine; improved mood but also increased impulsivity/ reward seeking (frontal cortex vs. Prefrontal/amygdala)

Sleep disruption in Common Psychiatric disorders



The Bluebird of Happiness long absent from his life,
Ned is visited by the Chicken of Depression.

Major Depression

Major Depressive Disorder

- Depressed mood
- Anhedonia
- Weight & appetite changes
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Fatigue or loss of energy
- Feelings of worthlessness or guilt
- Reduced concentration or indecisiveness
- Recurrent thoughts of death or suicidal ideation

Depressive symptoms impacting sleep

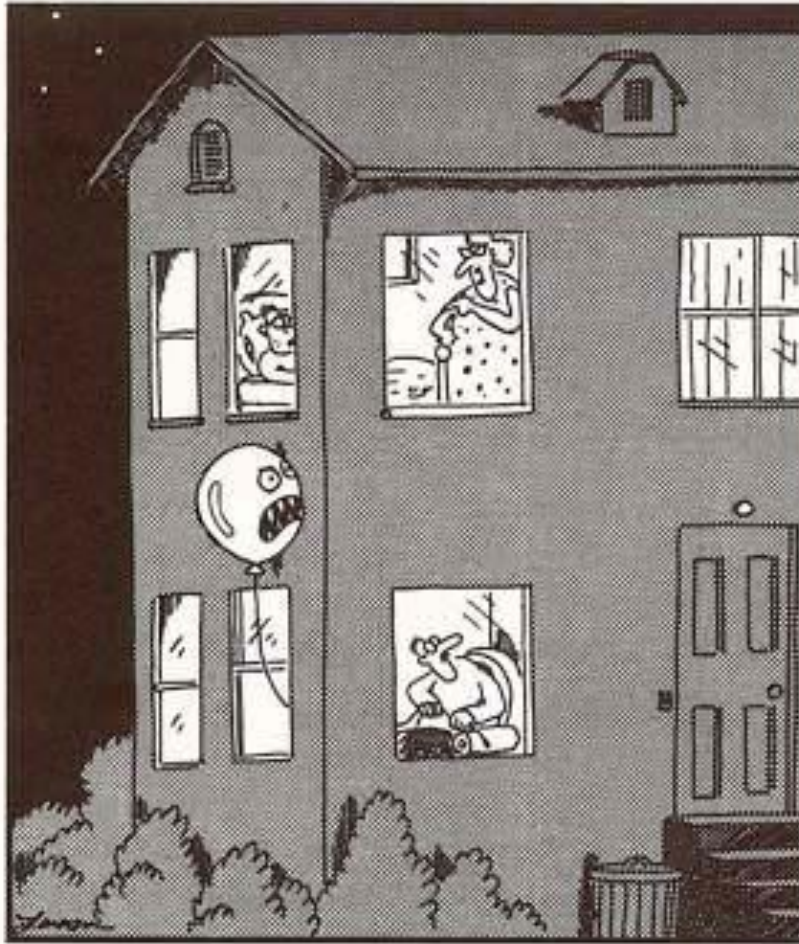
- Rumination/negative thinking interfering with sleep initiation and maintenance
- Social withdrawal impacting excessive time in bed or resting affecting sleep schedule
- Restlessness
- Insomnia symptoms in depressed patients increases the risk of death by suicide
- Hypersomnia
- Reduced serotonin influencing evening melatonin production

Bipolar Disorder

- Distinct period of elevated, expansive or irritable mood or increased goal-directed activity lasting at least a week
- Inflated self-esteem or grandiosity
- Decreased need for sleep
- More talkative than usual
- Flight of ideas or racing thoughts
- Distractibility
- Excessive involvement in activities with a high potential for painful consequences
- Major depressive episodes

Impacts of Bipolar Disorder on Sleep

- Racing thoughts
- Often days without sleep due to excessive activity
- Impulsive behavior/substance use changes
- Changes in sleep pattern can be trigger for a manic episode



“Now go to sleep, Kevin—or once again I’ll have to knock three times and summon the Floating Head of Death.”

Anxiety Disorders

Generalized Anxiety Disorder

- Difficult to control excessive anxiety and worry
- Restlessness
- Easily fatigued
- Difficulty concentrating, mind going blank
- Muscle tension
- Sleep disturbance

Posttraumatic Stress Disorder

- Exposure to actual or threatened death, serious injury, or sexual violence
- Recurrent, intrusive, distressing memories
- Recurrent distressing dreams or flashbacks
- Avoidance or effort to avoid thoughts or external reminders
- Negative alternations in cognition or mood (eg. Reduced memory, negative beliefs, anhedonia)
- Alterations in arousal/reactivity (eg. Irritability, hypervigilance, exaggerated startle, sleep disturbance)

Panic Disorder

- Recurrent unexpected panic attacks
- Pounding heart, sweating, shaking, shortness of breath, dizziness, heat or chills, numbness, fear of dying or going crazy
- Persistent concern or worry about future panic attacks and their consequences
- Maladaptive changes in behavior in effort to avoid attacks (e.g. agoraphobia)

Impacts of anxiety on sleep

- Racing thoughts
- Worry of not being able to sleep
- Fight or flight response and related tension
- Lack of sleep increasing physical anxiety symptoms
- Benzodiazepines impacting sleep quality
- Children with anxiety more likely to have associated sleep problems

...the coffee machine is broken...



Substance Abuse

Substance abuse

- Alcohol dependence/abuse
- Opioid abuse

Impacts on Sleep

- Problems with sleep maintenance
- Exacerbates sleep apnea
- Increases depression

Sleep Disorders impact on psychological health

Chronic insomnia

- Longitudinal study of individuals who reported insomnia at time point one were 4x more likely 3 years later to develop major depression
- Reduced self-care from lack of sleep (e.g. exercise, eating habits, substance use) influencing onset of depressive symptoms

Chronic insomnia

- Successful treatment of insomnia with CBT-I doubled likelihood of reduced depression
- Treatment of insomnia and nightmares improves other symptoms of PTSD (prazosin, eszopiclone, risperidone, olanzapine,

Obstructive Sleep apnea

- People with depression 5x more likely to suffer from sleep-disordered breathing
- CPAP treatment associated with reduced depressive symptoms

Obstructive sleep apnea

- Anxiety reducing CPAP adherence
- Mask changes
- Education
- CPAP desensitization training

Psychiatric medications and sleep

- Antidepressants
 - Timing of antidepressant to capitalize on side effects
 - Both SSRI's and tricyclics cause increased REM sleep latency, often decreased REM sleep
 - Tricyclics (e.g. amitriptyline) can trigger mania
- Benzodiazepines/hypnotics
 - Changes in sleep quality- reduced REM sleep
 - Daytime memory impairment
 - Respiratory depression
 - Chronic use can create depression
 - Physical and psychological dependence
 - REM sleep rebound with discontinuation (nightmares and insomnia)

Psychiatric Medications and Sleep

- Antipsychotics
 - Dopamine antagonists impact on melatonin
 - Typical vs atypical antipsychotics impact on sedation and sleep quality

Conclusion

- Awareness of comorbid psychiatric disorders can improve sleep outcomes
- Opportunities to improve psychiatric issues by addressing sleep