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Avani Roy
MD Scholar, Department of
Psychiatry, Government
Homoeopathic Medical College
& Hospital, Bhopal, Madhya
Pradesh, India

Digital dependency and youth insomnia: A homeopathic insight into sleep disturbance in the smartphone era

Avani Roy

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Abstract

The rise of smartphones has reshaped daily routines, particularly among young people. While these devices provide opportunities for learning, networking, and entertainment, excessive reliance on them has created a serious health burden: disturbed sleep. Many adolescents today spend late-night hours scrolling social media, gaming, or studying online, which interferes with their natural sleep cycle. Over time, this leads to insomnia—difficulty in falling or staying asleep—which impacts academic achievement, emotional balance, relationships, and even physical health.

This article examines the occurrence, causes, and biological basis of insomnia in digitally dependent youth. Standard diagnostic guidelines (DSM-5-TR and ICD-10) are simplified, followed by discussion on therapies and homeopathic treatment. The holistic and individualized approach of homoeopathy provides practical solutions that align with the modern challenges of digital life.

Keywords: Smartphones, insomnia, digital dependence, adolescents, homeopathy

Introduction

Once upon a time, night meant rest and quiet sleep. Today, for many young people, night has become a time of scrolling, chatting, and endless screen time. Smartphones have become both a friend and a trap—helpful for studies, entertainment, and connection, but harmful when overused. The blue light from screens, constant notifications, and fear of “missing out” keep the brain active when it should be winding down. Over time, this digital lifestyle has given rise to a silent epidemic—insomnia.

Insomnia is not just about “not sleeping.” It is about not feeling fresh after sleep, about struggling with the mind at night, and about carrying fatigue, irritability, and poor focus into the next day. Homoeopathy, with its emphasis on the individual mind-body constitution, provides a unique perspective in addressing this modern problem.

Epidemiology

Insomnia is surprisingly common in adolescents and young adults. Worldwide, around 10-30% of young people struggle with sleep problems ^[1, 2]. In India, studies show that more than 60% of students use smartphones within 30 minutes of bedtime, and almost 40% report late-night sleep delays ^[3, 4]. Research also indicates that urban youth, due to higher smartphone penetration, face more sleep disturbances than their rural counterparts ^[5].

In fact, smartphone overuse has now become so widespread that the World Health Organization (WHO) recognizes “digital dependency” and “problematic internet use” as risk factors for mental health issues ^[6].

Etiology

1. Biopsychosocial Factors

Today’s youth live in a competitive environment. Academic pressure, peer expectations, and social media comparison lead to stress. The phone becomes both a comforting escape and a cause of distress—a cycle that disturbs sleep ^[7].

2. Biological Factors

Smartphones emit blue light, which blocks the release of melatonin, the natural hormone that signals the brain to sleep. As a result, the body’s internal clock (circadian rhythm) shifts, and sleep gets delayed ^[8].

Corresponding Author:
Avani Roy
MD Scholar, Department of
Psychiatry, Government
Homoeopathic Medical College
& Hospital, Bhopal, Madhya
Pradesh, India

3. Neurological Factors

Overuse of phones, gaming, or late-night studying stimulates the brain. Neurotransmitters like dopamine (pleasure chemical) and cortisol (stress hormone) rise, keeping the mind hyperactive when it should relax ^[9].

4. Environmental Factors

Crowded living spaces, late-night noise, irregular meal times, and easy access to mobile data contribute to disturbed sleep ^[10].

5. Cognitive Factors

Many youth experience “pre-sleep rumination”—lying in bed and replaying conversations, scrolling endlessly, or worrying about the next day’s tasks. This mental over-activity prevents natural sleep ^[11].

6. Personality Traits and Temperament

Certain personality types—like anxious, perfectionist, or sensitive individuals—are more prone to insomnia. Extroverted adolescents who thrive on social interaction often find it difficult to “switch off” from online activities ^[12].

7. Family Dynamics

Parental behavior influences youth sleep patterns. If parents themselves use phones late at night, children tend to copy the same habits. Lack of communication at home sometimes pushes youth more towards digital companionship ^[13].

Pathophysiology

Digital dependency disrupts sleep through a two-fold mechanism: Suppression of melatonin from blue light, delaying natural sleep onset.

Heightened arousal of the nervous system, triggered by continuous stimulation and emotional engagement.

The body clock (circadian rhythm) becomes misaligned, while the stress pathway (HPA axis) stays active, increasing cortisol levels. Long-term consequences include memory lapses, poor mood regulation, and risk of psychiatric conditions ^[14, 15].

Impact of Mobile Overuse on Youth

Academic: Excessive mobile use reduces focus and study time, often leading to poor academic performance and procrastination.

Social: Spending more time online can weaken real-life relationships, as youth may prefer virtual interactions over face-to-face communication.

Personal: Constant mobile use increases stress, anxiety, and emotional dependence, affecting mental health and self-esteem.

Physical: Long hours on mobile phones can cause eye strain, headaches, poor posture, and sleep disturbances.

Future Risk: Overuse can affect career opportunities, life skills, and overall well-being, making it harder to succeed personally and professionally ^[16, 17].

Diagnostic criteria of insomnia according to DSM-5 ^[18].

A. Predominant complaints of dissatisfaction with sleep

quantity or quality, associated with one or (more) of the following symptoms-

- Difficulty in initiating sleep.
 - Difficulty in maintaining sleep.
 - Early morning awakening with inability to return to sleep.
- B. The sleep disturbances causes clinically, significant distress or impairment in social, occupational, educational, academic, behavioral or other important areas of functioning.
- C. Difficulty in sleep occurs at least 3 nights in a week.
- D. Difficulty in sleep is present for at least 3 months.
- E. The sleep difficulties occurs despite adequate opportunity for sleep.
- F. The insomnia is not better explained by and does not occur exclusively during the course of another sleep-wake disorder (e.g., narcolepsy, a breathing-related sleep disorder, a circadian rhythm sleep-wake disorder, a parasomnia).
- G. The insomnia is not attributable to the physiological effects of a substance (e.g., a drug of abuse, a medication).
- H. Coexisting mental disorders and medical conditions do not adequately explain the predominant complaint of insomnia.

Specify if

- **Episodic:** Symptoms last at least 1 month but less than 3 months.
- **Persistent:** Symptoms last 3 months or longer.
- **Recurrent:** Two (or more) episodes within the space of 1 year.

ICD-10 Criteria (F51.01) ^[19]

- a) Excessive daytime sleepiness or sleep attacks, not accounted for by an inadequate amount of sleep, and/or prolonged transition to the fully aroused state upon awakening (sleep drunkenness);
- b) Sleep disturbance occurring daily for more than 1 month or for recurrent periods of shorter duration, causing either marked distress or interference with ordinary activities in daily living;
- c) Absence of auxiliary symptoms of narcolepsy (cataplexy, sleep paralysis, hypnagogic hallucinations) or of clinical evidence for sleep apnoea (nocturnal breath cessation, typical intermittent snoring sounds, etc.);
- d) Absence of any neurological or medical condition of which daytime somnolence may be symptomatic.

Management

Sleep Hygiene: Good sleep habits are very important for young people who spend too much time on their phones. Going to bed and waking up at the same time every day, avoiding phones at least an hour before sleep, and keeping the bedroom calm, dark, and quiet can help improve sleep.

Cognitive Behavioral Therapy for Insomnia (CBT-I):

CBT-I is a type of therapy that helps teens and young adults change thoughts and habits that make it hard to sleep. It teaches ways to reduce worry at night, follow a regular sleep routine, and fall asleep more easily.

Relaxation Techniques: Relaxation exercises like deep breathing, meditation, yoga, or muscle relaxation can calm the mind and body. Doing these before bed helps reduce stress and makes it easier to sleep, even if you've been using your phone late.

Stimulus Control: This means training your body to associate the bed only with sleep. Avoid using your phone in bed, and if you can't sleep, get up and do something relaxing until you feel sleepy again. This helps your body follow a natural sleep schedule.

Digital Hygiene: Digital hygiene is about using phones in a healthy way. Limiting screen time, turning off unnecessary notifications, taking breaks from social media or games, and having device-free times during the day can reduce phone addiction and protect sleep and mental health ^[20, 21].

Individualized Homoeopathic Medicines

Coffee Cruda is indicated in cases where insomnia is accompanied by mental overactivity and restlessness. Youth requiring Coffee Cruda often report inability to sleep due to excitement or mental stimulation, even when physically exhausted. They may lie awake thinking about future tasks, with frequent interruptions of sleep and vivid dreams.

Nux Vomica is particularly useful for insomnia associated with overwork, stress, and excessive consumption of stimulants or fast foods. Patients often report waking up early in the morning with a sense of unrest, irritability, and a heavy, tense feeling in the head. Sleep may be disturbed by digestive complaints, such as acidity or constipation, which are common in adolescents with erratic eating habits.

Arsenicum Album is indicated when insomnia is accompanied by anxiety, restlessness, and fear of being alone at night. Youth may experience difficulty falling asleep due to obsessive thoughts, insecurity, or perfectionistic tendencies. There is often a desire for reassurance, repeated checking behaviors, and sleep may be interrupted with frequent awakenings.

Passiflora incarnata is beneficial for nervous insomnia with restlessness and sensitivity to noise. Young patients may be very excitable during the day and unable to relax at night. Sleep may be light and unrefreshing, with vivid or disturbing dreams. *Passiflora* acts as a nervine sedative, calming the overactive nervous system (22, 23).

Homoeopathy treats the person as a whole, considering mental state, lifestyle, and temperament, along with sleep symptoms.

Conclusion

Smartphones have changed night into a time of activity rather than rest. For today's youth, this shift has resulted in insomnia that affects studies, relationships, and overall health. While therapies like CBT-I and lifestyle changes offer structured solutions, homoeopathy provides a individualized, gentle, and holistic method to restore balance in both mind and body. By combining digital discipline with homeopathic remedies, young people can regain natural, refreshing sleep in this fast-paced world.

Conflict of Interest

Not available

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