

Ājñā Chakra Meditation in Mobile Phone–Induced Insomnia: An Integrative Ayurvedic Review

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I. INTRODUCTION

Insomnia has become one of the most prevalent disorders in the digital age. Late-night exposure to blue light from mobile phones and digital screens alters circadian timing by suppressing melatonin secretion from the pineal gland. This phenomenon delays sleep onset, shortens total sleep time, and deteriorates sleep quality. Behavioral dependence on nighttime mobile use further aggravates psychological arousal, stress, and anxiety. In Ayurvedic science, such overstimulation of sensory organs is described as Asatmendriyartha Samyoga, while knowingly engaging in harmful habits represents Prajñāparādha. Both lead to Manovaha Srotas Dushti (mental channel disturbance) and imbalance of Vata and Pitta Doshas, manifesting clinically as Anidra (insomnia). Yogic literature mentions six primary chakras; the Ājñā Chakra, located between the eyebrows, governs mental focus, awareness, and endocrine balance. Meditation upon this center helps regulate mind–body harmony and may directly influence the pineal gland, which is responsible for melatonin synthesis.

II. METHODS

Electronic databases (PubMed, AYUSH Portal, Google Scholar) were searched using the terms blue light insomnia, mobile screen exposure melatonin, Ayurveda insomnia, Rasāyana therapy sleep, and Ājñā Chakra meditation. Classical texts such as Charaka Samhita, Ashtanga Hridaya, Sushruta Samhita, and Hatha Yoga Pradipika were reviewed for Ayurvedic and yogic correlations. Studies were included if they investigated blue-light effects on sleep physiology or

assessed meditation and Ayurvedic interventions for insomnia.

III. BLUE LIGHT EXPOSURE AND SLEEP DISTURBANCE

1. Melatonin Suppression and Circadian Delay: Controlled studies confirm that exposure to blue light (460–480 nm) in the late evening significantly suppresses melatonin secretion and shifts circadian rhythm. ¹
2. Sleep Quality Decline: Excess screen time before bed increases sleep latency and reduces rapid-eye-movement (REM) duration. ²
3. Cognitive and Psychological Effects: Nighttime blue-light exposure enhances cortical activity and sympathetic drive, producing alertness instead of relaxation. ³
4. Oxidative Stress: Blue-light exposure induces retinal and neuronal oxidative stress, indirectly influencing central nervous system arousal pathways. ⁴

Collectively, these effects mirror the Vata–Pitta vitiation described in Ayurveda restlessness, irritability, and insomnia.

IV. AYURVEDIC PERSPECTIVE ON BLUE-LIGHT–INDUCED INSOMNIA

- Asatmendriyartha Samyoga: Continuous visual engagement with bright, artificial light constitutes improper contact of the eyes (Chakshurendriya) with sense objects, disturbing the mind and Vata.
- Prajñāparādha: Despite awareness of harmful effects, habitual late-night screen use reflects

misuse of intellect, generating stress and Dosha imbalance.

- Anidra (Nidranāsha): Classified under Vata Nanātmaja Vyadhi, insomnia is often linked to depletion of Ojas (vital essence) and aggravated Vata.
- Management: Texts recommend Snehana (oleation), Shirodhara, Abhyanga, and use of Medhya Rasāyana (nootropic rejuvenatives) such as Ashwagandha, Brahmi, and Jatamansi to restore equilibrium.⁵

V. YOGIC AND NEUROPHYSIOLOGICAL BASIS OF ĀJÑĀ CHAKRA MEDITATION

The Ājñā Chakra situated between the eyebrows is regarded as the command center of consciousness. Focusing on this point during meditation is believed to channel mental energy inward, disengaging from excessive sensory stimulation.

VI. AJNA CHAKRA AND PINEAL GLAND

The pineal gland is known as the third eye chakra, or ajna chakra in the Hindu system. A closed ajna is said to lead to confusion, uncertainty, cynicism and pessimism. Every esoteric tradition heralded the third eye as our connection to spirit. It's the space between human and God, moving us from the isolation experienced in the human condition. Through an open and vibrant third eye, we find our highest source of ethereal energy. A return path to God is offered when one works to expand third-eye awareness. Biologically speaking, we can see how the functions of the pineal gland contribute to a metaphysical universe. Glands by design secrete important hormones. Melatonin is produced by the pineal gland, controlling our circadian rhythms and reproductive hormones. This makes the pineal a master regulator of time, affecting not only our sleep patterns but also our sexual maturation. More

than just sleep-regulating, the melatonin release also affects our stress and ability to adapt to a changing world. Quite simply, our happiness and well-being is directly affected by harmony in the pineal.

VII. PINEAL GLAND AND NIGHT'S SLEEP

There are countless environmental, physical, mental, and emotional factors that influence our sleeping patterns on a day-to-day basis. When considering these various triggers, regardless of which one each person deals with each night, we can confidently say that everyone needs one, underlying element for sleep – melatonin. Let's call melatonin your sleeping secret weapon. If you had a team of hormones, melatonin would be your star player.^{6,7}

VIII. MELATONIN AND SLEEP

A hormone involved in sleep regulatory activity, and a tryptophan-derived neurotransmitter, which inhibits the synthesis and secretion of other neurotransmitters such as dopamine and GABA.

Melatonin is synthesized from serotonin intermediate in the pineal gland and the retina where the enzyme 5-hydroxyindole-O-methyltransferase, that catalyzes the last step of synthesis, is found. This hormone binds to and activates melatonin receptors and is involved in regulating the sleep and wake cycles. In addition, melatonin possesses antioxidative and immunoregulatory properties via regulating other neurotransmitters.⁸

Modern studies suggest that similar practices (e.g., Trataka and mindfulness meditation) increase alpha and theta brainwave activity, enhance parasympathetic tone, reduce cortisol, and improve sleep quality.⁹⁻¹⁰ Concentration on the Ājñā region may stimulate the pineal gland, harmonize melatonin release and stabilize circadian rhythms.

Integrative Approach: Ājñā Chakra Meditation with Rasāyana Therapy

Component	Rationale
Ājñā Chakra Meditation	Reduces sensory overload, quiets mental activity, enhances parasympathetic activity.
Ashwagandha (<i>Withania somnifera</i>)	Adaptogenic; lowers cortisol, improves sleep efficiency.
Brahmi (<i>Bacopa monnieri</i>)	Neuroprotective; enhances GABAergic modulation, calms mind.
Amalaki (<i>Embolica officinalis</i>)	Antioxidant; counters oxidative stress from blue-light exposure.
Lifestyle Regulation (Dincharya)	Avoid screens post-sunset, early bedtime, use of warm oil foot massage, Shiro Abhyanga.

This integrative regimen addresses both physiological and psychological dimensions of blue-light-related insomnia.

IX. DISCUSSION

The dominance of digital lifestyles has converted natural nocturnal rest into a state of chronic sensory stimulation. Blue-light-induced insomnia exemplifies this imbalance. Āyurveda identifies the cause as Asatmendriyārtha Samyoga and Prajñāparādha, for which the therapeutic goal is restoration of Manasika and Sharirika balance. Ājñā Chakra meditation offers a direct corrective measure reducing visual strain, pacifying Vata, and promoting sleep through enhanced melatonin synthesis and parasympathetic activation. When supplemented with Rasāyana herbs, the synergistic effect strengthens neuronal resilience and mental stability. Future randomized controlled trials should evaluate these interventions objectively using polysomnography, actigraphy, heart-rate variability, and salivary melatonin measurements.

X. CONCLUSION

Blue-light rays emitted from mobile phones are a leading contributor to sleep disturbances in modern society. By combining the ancient wisdom of Āyurveda and Yogic meditation, particularly Ājñā Chakra practice, with evidence-based lifestyle regulation and Rasāyana support, a sustainable solution can be achieved. This integrative approach holds promise for restoring natural sleep cycles and improving mental wellbeing.

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