

## ROLE OF DINACHARYA IN REGULATION OF NIDRA IN CHILDREN: AN AYURVEDIC INTEGRATIVE REVIEW

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### ABSTRACT

*Nidra* (Sleep) is one among the *Trayopastambha* described in *Ayurveda* and plays a vital role in maintaining physical growth, neurodevelopment, and psychological well-being in children. Adequate sleep is essential for cognitive maturation, emotional stability, and physiological homeostasis during childhood. The Ayurvedic concept of *Dinacharya* (daily regimen) provides time-regulated behavioral practices that help maintain doshic equilibrium and promote healthy sleep patterns. The present review aims to analyze the role of *Dinacharya* in the regulation of *Nidra* in children from an Ayurvedic perspective and to examine its relevance in relation to contemporary understanding of sleep physiology. This conceptual review was conducted based on classical Ayurvedic texts including *Charaka Samhita*, *Sushruta Samhita*, and *Kashyapa Samhita*, along with modern literature related to pediatric sleep and physiological regulation. Ayurvedic literature emphasizes that

*Nidra* is essential for maintenance of strength, intellect, growth, and longevity, and recommends practices such as regulated sleep timing, *Abhyanga* (oil massage), environmental regulation, and behavioral discipline to facilitate sleep initiation. Modern sleep science similarly highlights the importance of structured routines, environmental

synchronization, and behavioral regulation in pediatric sleep management. The review demonstrates that *Dinacharya* provides a systematic framework for regulation of *Nidra* in children and supports physiological stability through behavioral and environmental modulation. Integration of Ayurvedic daily routines with contemporary sleep practices may offer effective preventive strategies for improving pediatric health and overall well-being.

**KEYWORDS:** Nidra, Dinacharya, Kaumarabhritya, Pediatric sleep, Ayurvedic daily regimen, Sleep regulation, Child health.

## INTRODUCTION

Sleep is a fundamental physiological process essential for growth, neurodevelopment, and maintenance of health, particularly during childhood. Adequate and well-regulated sleep supports cognitive development, emotional stability, metabolic regulation, and immune function. Disturbances in sleep during early life may adversely affect behavioral patterns, learning capacity, and physical development.<sup>[4-6]</sup>

Ayurveda considers *Nidra* (Sleep) as one of the *Trayopastambha*, the three fundamental pillars that sustain life. Proper sleep is described as essential for strength, nourishment, intellect, and longevity.<sup>[1]</sup> The Ayurvedic concept of *Dinacharya*, or daily regimen, prescribes time-regulated activities that maintain physiological balance and promote healthy sleep patterns.<sup>[1,2]</sup> In children, whose physiological systems are undergoing rapid development, regulation of *Nidra* through appropriate daily routines becomes particularly important.

Understanding the role of *Dinacharya* in sleep regulation may provide a comprehensive framework for promoting pediatric health. Therefore, the present review explores the Ayurvedic perspective of *Nidra* in children and examines the role of daily regimen in maintaining healthy sleep.

## AIM AND OBJECTIVES

The present review aims to analyze the role of *Dinacharya* in regulation of *Nidra* in children. The objectives include reviewing the physiological basis of sleep regulation, describing *Dinacharya* and its role in maintaining health, analyzing the concept of *Nidra*, evaluating the importance of sleep in childhood development, and exploring integrative implications for pediatric healthcare.

## MATERIALS AND METHODS

This conceptual review was conducted through systematic examination of classical Ayurvedic literature including *Charaka Samhita*, *Sushruta Samhita*, and *Kashyapa Samhita*.<sup>[1-3]</sup> Contemporary scientific literature related to sleep physiology and pediatric sleep medicine was reviewed from standard medical textbooks and research publications.<sup>[4-7]</sup> A comparative analytical approach was adopted to identify conceptual correlations between Ayurvedic principles and modern biological mechanisms.

## PHYSIOLOGICAL BASIS OF SLEEP REGULATION

Sleep is regulated by complex neurophysiological mechanisms involving circadian rhythm and sleep-wake homeostasis. The circadian system synchronizes sleep-wake patterns with environmental cues such as light and temperature through central neural regulation.<sup>[13-16]</sup> Melatonin secretion plays an important role in sleep initiation and biological timing.<sup>[4]</sup> In children, sleep patterns undergo progressive maturation from fetal life through early childhood and are essential for synaptic remodeling, hormonal secretion, and emotional regulation.<sup>[6, 10]</sup> Disruption of sleep regulation may result in behavioral disturbances and impaired neurodevelopment.<sup>[18]</sup>

## DINACHARYA

*Dinacharya* represents a systematic daily regimen described in Ayurveda for preservation of health and prevention of disease.<sup>[1]</sup> It is based on the principle that physiological processes exhibit temporal variation in response to environmental cycles. Ayurveda describes diurnal predominance of *Doshas*, with *Kapha* dominating morning hours, *Pitta* governing metabolic activity during mid-day, and *Vata* influencing neurological functions in the evening.<sup>[1,2]</sup> Daily practices such as regulated waking, *Abhyanga* (oil massage), *Snana* (bathing), appropriate dietary timing, and scheduled sleep are recommended to maintain doshic equilibrium. Regular daily routines act as behavioral regulators that stabilize physiological functions and promote homeostasis.

## NIDRA IN AYURVEDA

Ayurveda conceptualizes *Nidra* as a natural physiological state resulting from functional withdrawal of mind and sensory organs from external stimuli.<sup>[1]</sup> Sleep occurs due to predominance of *Tamas* and *Kapha*, leading to reduced sensory perception and mental activity. Proper sleep maintains happiness, nourishment, strength, and longevity, whereas improper sleep leads to disease.<sup>[1]</sup> Ayurvedic literature describes measures to promote healthy

sleep including oil massage, pleasant sensory stimuli, appropriate diet, and environmental comfort.<sup>[1,9]</sup>

### NIDRA IN CHILDREN

Childhood is characterized by rapid growth and predominance of *Kapha Avastha*, which supports tissue development and anabolic processes.<sup>[3,26]</sup> Adequate sleep during this stage is essential for development of strength, intellect, and metabolic efficiency. Traditional pediatric practices such as swaddling, rhythmic rocking, and oil massage provide sensory regulation and promote sleep initiation.<sup>[26]</sup> Age-appropriate sleep duration is essential due to increased metabolic demands and neural plasticity.<sup>[23]</sup> Sleep supports brain maturation, emotional regulation, and behavioral stability.<sup>[6,10]</sup>

### MODERN UNDERSTANDING OF PEDIATRIC SLEEP

Modern sleep science describes sleep as a reversible neurophysiological state consisting of rapid eye movement and non-rapid eye movement stages.<sup>[25]</sup> Sleep is closely associated with neural restoration, hormonal regulation, and cognitive processing. Sleep disturbances in children may lead to behavioral problems, cognitive impairment, and emotional instability.<sup>[18,28]</sup> Environmental factors such as screen exposure, irregular routines, and parental practices significantly influence sleep quality.<sup>[20]</sup>

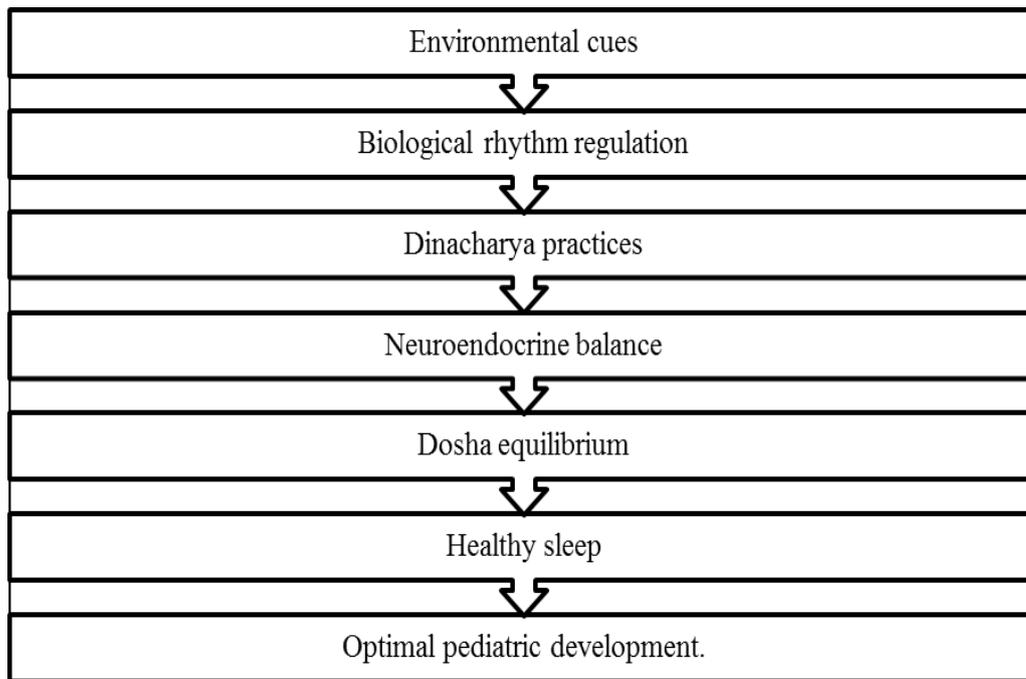
### CONVERGENCE AND INTEGRATIVE UNDERSTANDING

Both Ayurvedic and modern perspectives emphasize rhythmicity, environmental synchronization, and behavioral regulation in sleep management.<sup>[8,9]</sup> The Ayurvedic concept of doshic balance may correspond to neuroendocrine regulation of sleep, while *Dinacharya* practices resemble behavioral interventions promoting physiological stability. Traditional practices such as *Abhyanga* and swaddling may influence autonomic regulation and facilitate sleep initiation.<sup>[12]</sup>

**Table 1: Conceptual Comparison between Ayurvedic Principles and Physiological Sleep Regulation.**

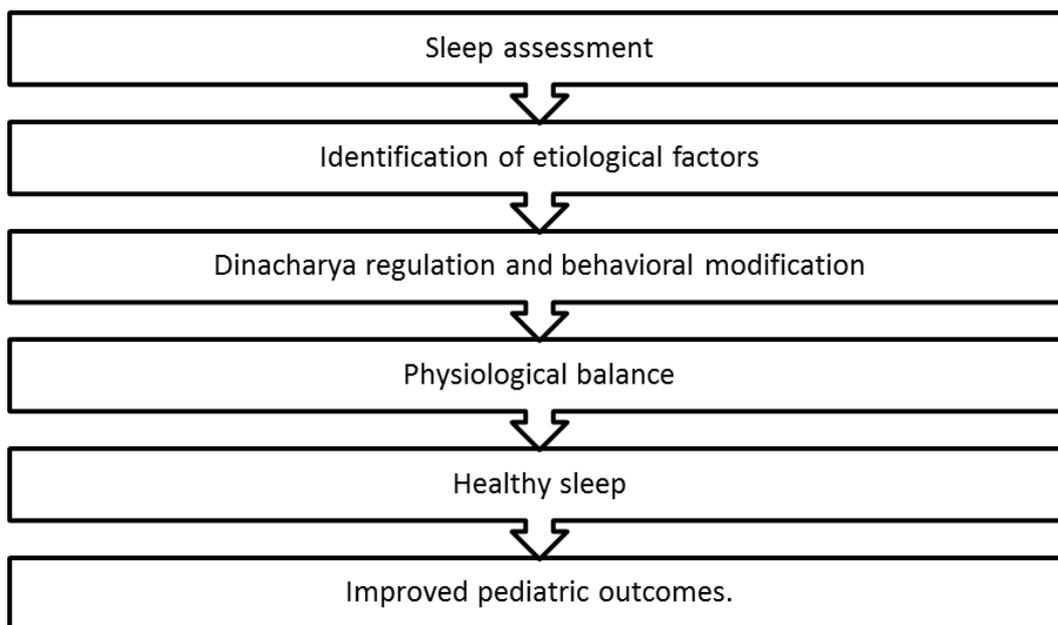
Ayurvedic Concept	Physiological Concept	Functional Interpretation
<i>Dinacharya</i>	Biological rhythm regulation	Time-structured activities regulate physiology
<i>Dosha</i> rhythmicity	Diurnal variation	24-hour physiological cycle
<i>Nidra</i> as <i>Trayopastambha</i>	Restorative sleep	Tissue repair
<i>Tamas</i> predominance	Reduced neural activity	Sleep induction

<i>Abhyanga</i>	Parasympathetic activation	Relaxation response
Swaddling/rocking	Sensory regulation	Autonomic stabilization
<i>Kapha</i> in childhood	Growth physiology	Anabolic development



**Figure 1: Integrative Model of Dinacharya and Sleep Regulation.**

**Figure 2: Pediatric Nidra Management Protocol.**



**DISCUSSION**

The present review demonstrates significant parallels between Ayurvedic principles of *Dinacharya* and modern understanding of sleep regulation. The emphasis on temporal

organization of activities in Ayurveda reflects recognition of biological rhythmicity. Ayurvedic descriptions of sleep involving predominance of Tamas may correspond to neurochemical processes such as melatonin secretion and reduced cortical activity.<sup>[4,24]</sup> Both traditional and modern approaches emphasize structured routines and environmental regulation in pediatric sleep management.<sup>[20]</sup> However, further clinical research is required to validate the therapeutic efficacy of Ayurvedic interventions.

## CONCLUSION

*Dinacharya* provides a systematic framework for regulation of *Nidra* and maintenance of health. The Ayurvedic concept of sleep demonstrates significant alignment with contemporary understanding of physiological regulation. Integration of Ayurvedic daily routines with modern sleep practices may provide effective strategies for improving pediatric health and preventing sleep-related disorders.

## REFERENCES

1. Acharya JT, editor. Charaka Samhita of Agnivesha with Ayurveda Dipika commentary of Chakrapanidatta. Reprint ed. Varanasi: Chaukhambha Orientalia, 2014.
2. Acharya JT, editor. Sushruta Samhita of Sushruta with Nibandhasangraha commentary of Dalhanacharya. Reprint ed. Varanasi: Chaukhambha Orientalia, 2014.
3. Tewari PV. Kashyapa Samhita (Vridhha Jivakiya Tantra). Varanasi: Chaukhambha Visvabharati, 2002.
4. Guyton AC, Hall JE. Textbook of Medical Physiology. 14th ed. Philadelphia: Elsevier, 2021; p. 739–743.
5. Sembulingam K, Sembulingam P. Essentials of Medical Physiology. 8th ed. New Delhi: Jaypee Brothers Medical Publishers, 2016; p. 931–937.
6. Owens JA. Sleep medicine. In: Kliegman RM, Stanton BF, St Geme JW, Schor NF, editors. Nelson Textbook of Pediatrics. 18th ed. Philadelphia: Elsevier Saunders, 2007; p. 91–98.
7. Walker M. Why We Sleep: The New Science of Sleep and Dreams. London: Penguin Books, 2017.
8. Devpal H, Sharma PD, Deepa D. Importance of Nidra (sleep) with special reference to its types and physiology. *World Journal of Pharmaceutical and Life Sciences*, 2022; 8(6): 92–94.

9. Khajuria N, Dadhich OP. Relation of Ahara and Nidra: A literary review. *International Ayurvedic Medical Journal*, 2017; 5(11): 4210–4215.
10. Ando A, Ohta H. Sleep maturation influences cognitive development of preterm toddlers. *Scientific Reports*, 2021; 11: 15921.
11. Axelrod S. *How Babies Sleep: The Science and Practice of Healthy Sleep*. New York: Harper Collins Publishers, 2020.
12. Kulkarni R, Girish KJ, Kumar A. Nootropic herbs (Medhya Rasayana) in Ayurveda: An update. *Evidence-Based Complementary and Alternative Medicine*, 2012; 2012: 1–8.
13. Czeisler CA, Gooley JJ. Sleep and circadian rhythms in humans. *Cold Spring Harbor Symposia on Quantitative Biology*, 2007; 72: 579–597.
14. Borbély AA, Daan S, Wirz-Justice A, Deboer T. The two-process model of sleep regulation: A reappraisal. *Journal of Sleep Research*, 2016; 25(2): 131–143.
15. Moore RY. Suprachiasmatic nucleus in sleep–wake regulation. *Sleep Medicine*, 2007; 8(Suppl 3): 27–33.
16. Reppert SM, Weaver DR. Coordination of circadian timing in mammals. *Nature*, 2002; 418(6901): 935–941.
17. Mindell JA, Owens JA. *A Clinical Guide to Pediatric Sleep: Diagnosis and Management of Sleep Problems*. 3rd ed. Philadelphia: Lippincott Williams & Wilkins, 2015.
18. Owens JA, Mindell JA. Pediatric insomnia. *Pediatric Clinics of North America*, 2011; 58(3): 555–569.
19. Matricciani L, Olds T, Petkov J. In search of lost sleep: Secular trends in sleep duration among school-aged children and adolescents. *Sleep Medicine Reviews*, 2012; 16(3): 203–211.
20. Meltzer LJ, Mindell JA. Systematic review and meta-analysis of behavioral interventions for pediatric insomnia. *Journal of Pediatric Psychology*, 2014; 39(8): 932–948.
21. Axelsson J, et al. Sleep and metabolic regulation in children. *Sleep Medicine Reviews*. 2010; 14(5): 307–317.
22. Blunden S, Galland B. The complexities of defining optimal sleep: Empirical and theoretical considerations. *Sleep Medicine Reviews*, 2014; 18(3): 211–212.
23. Hirshkowitz M, Whiton K, Albert SM, Alessi C, Bruni O, DonCarlos L, et al. National Sleep Foundation sleep duration recommendations: Methodology and results summary. *Sleep Health*, 2015; 1(1): 40–43.
24. Saper CB, Fuller PM, Pedersen NP, Lu J, Scammell TE. Sleep state switching. *Neuron*, 2010; 68(6): 1023–1042.

25. Carskadon MA, Dement WC. Normal human sleep: An overview. In: Kryger MH, Roth T, Dement WC, editors. *Principles and Practice of Sleep Medicine*. 6th ed. Philadelphia: Elsevier, 2017; p. 15–24.
26. Acharya S. *Textbook of Kaumarabhritya*. Vol 1. Varanasi: Chaukhambha Orientalia, 2017; p. 73–104.
27. Axelrod FB, Sadeh A. Sleep in children and adolescents. *Pediatrics in Review*, 2006; 27(9): 321–332.
28. Patel SR, Hu FB. Short sleep duration and weight gain: A systematic review. *Obesity*, 2008; 16(3): 643–653.
29. National Institute of Neurological Disorders and Stroke. *Brain Basics: Understanding Sleep*. Bethesda (MD): National Institutes of Health, 2020.
30. Sujit K. Concept of Nidra and its physiological aspects on human body. *Journal of Pharmacognosy and Phytochemistry*, 2016; 5(5): 123–126.