

## BRAHMA MUHURTA JAGRAN AS A PREVENTIVE LIFESTYLE MEASURES: AN INTEGRATIVE REVIEW OF AYURVEDIC AND MODERN PERSPECTIVES

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### ABSTRACT

**Background:** Ayurveda places strong emphasis on daily routines (Dinacharya) for preservation of health and prevention of disease. Among these, awakening during Brahma Muhurta—the early pre-dawn period—is considered foundational. Contemporary biomedical sciences increasingly recognize the importance of circadian rhythm alignment for metabolic, neuro-endocrine, and mental health. **AIM:** To critically review the concept of Brahma Muhurta Jagarana as described in classical Ayurvedic literature and to correlate it with modern chronobiology and physiological mechanisms relevant to health promotion and prevention of non-communicable diseases.

**MATERIALS AND METHODS:** Classical Ayurvedic texts including Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, and Ashtanga Sangraha were reviewed for references related to Brahma Muhurta and Dinacharya. Contemporary

biomedical literature on circadian rhythm, melatonin, neuro-endocrine regulation, and autonomic balance was analyzed to establish integrative correlations. **RESULTS:** Ayurvedic texts consistently describe Brahma Muhurta as the optimal time for awakening, cognitive activities, and spiritual practices, provided digestion of the previous meal is complete. This period coincides with Vata-dominant Kala, promoting lightness, alertness, and efficient elimination. Modern studies demonstrate that early morning awakening supports circadian synchronization, favourable hormonal secretion patterns, autonomic balance, and improved

mental clarity. Melatonin withdrawal, cortisol rhythm optimization, and parasympathetic predominance appear to mediate these benefits. **Conclusion:** Brahma Muhurta Jagran represents a scientifically relevant lifestyle intervention aligned with circadian biology. Its regular practice may contribute to metabolic regulation, mental well-being, and prevention of lifestyle-related disorders. Integration of this principle into preventive healthcare strategies may help mitigate the growing burden of non-communicable diseases.

**KEYWORDS:** Brahma Muhurta, Circadian rhythm, Dinacharya, Melatonin, Health promotion.

## INTRODUCTION

Health promotion is a cornerstone of Ayurveda, which emphasizes not only treating disease but also maintaining optimal health in a healthy individual.<sup>[1]</sup> Swasthavritta is the branch of ayurveda which deals with prevention of diseases through holistic approach by diet, hygiene, and yoga. In Ayurveda the concepts of Dinacharya, Ratricharya, Ritucharya, and Sadvritta are explained, which help to restore normal health and avoid illness.<sup>[2]</sup> Dina and Charya are the two terms that make up Dinacharya. Charya implies duties or routines, while Dina signifies a day or daytime. Arundatta describes daily routines known as dinacharya.<sup>[3]</sup> India is experiencing a rapid epidemiological transition, with non-communicable diseases (NCDs) constituting a major and rising share of mortality. According to the World Health Organization's India NCD profile, NCDs were estimated to account for about 63 % of all deaths in India in 2016, with cardiovascular diseases, chronic respiratory diseases, cancers, and diabetes being the leading contributors. This shift has been attributed to an ageing population and behavioural changes driven by urbanisation and environmental factors.<sup>[4]</sup> This happens because of following unhealthy daily routine. Dinacharya sequences start with awakening at bharmemuhrat and then, cleansing (Danta dhavana, Jihva nirlekhana), Vyayama (light exercise), Abhyanga (self-massage) when applicable, and subsequent activities (study, meditation, prayer). Brahma Muhurta functions as the anchor of the day: rising at this time facilitates timely elimination (Mala Mukti), regular feeding-activity schedules, and congruence with environmental light-dark cues—factors central to Ayurvedic and biomedical health models.

## Review of literature

### 1. Concept of brahmamuhurat

According to classical Ayurvedic texts, Brahma Muhurta is the 14th Muhurta of the night, occurring during the last Prahara (Yama). Each Muhurta comprises approximately 48 minutes; thus, Brahma Muhurta corresponds to nearly 1 hour and 36 minutes before sunrise.<sup>[5]</sup>

A healthy individual, for the preservation of life, should awaken during Brahma Muhurta after assessing the state of digestion of the previous night's meal. If digestion is complete, awakening at Brahma Muhurta is advised; however, if the food has not been properly digested, early awakening should be avoided. The word Brahma signifies supreme knowledge (Jnana) as well as the Absolute Reality (Ishvara). Therefore, Brahma Muhurta is regarded as the most appropriate time for the acquisition of knowledge and remembrance of the Divine. Ayurvedic classics advocate awakening during this period and engaging in practices such as Dhyana (meditation), Adhyayana (study), and Ishvara Smarana, as the mind remains calm, pure, and receptive.<sup>[3]</sup>

The early morning hours are also referred to as Amrita Vela, denoting a period rich in vitality and purity. During this time, nature is present in its most unpolluted form, characterized by pure air, pure water, clean land, abundant light, and open sky. These five elements are described metaphorically as the "five nectars of nature," which are available predominantly in the early morning and contribute significantly to physical and mental well-being.<sup>[6]</sup>

### 2. Brahma Muhurta as Part of Dinacharya

Acharya Vaghbata begins the description of Dinacharya by first advising awakening during Brahma Muhurta, as stated in the verse 'Brahme muhurte uttisthet', and subsequently elaborates the sequential daily regimen. Wake up during Brahma Muhurta for the preservation of health and longevity, after ensuring proper digestion of the previous night's meal. However, this regimen is not recommended for diseased or debilitated individuals, as adequate rest is essential for recovery.<sup>[5]</sup>

Dinacharya sequences awakening, cleansing (Danta dhavana, Jihva nirlekhana), Vyayama (light exercise), Abhyanga (self-massage) when applicable, and subsequent activities (study, meditation, prayer). Brahma Muhurta functions as the anchor of the day: rising at this time facilitates timely elimination (Mala Mukti), regular feeding-activity schedules, and

congruence with environmental light-dark cues—factors central to Ayurvedic and biomedical health models.<sup>[3]</sup>

### **3. Brahma muhurat and Dosha**

Vata dosha is predominant in early morning & late afternoon. Brahma Muhurta falls within the Vata-kala, hence Vata doṣa predominates.<sup>[7]</sup> Effect of vata dosha on body lightness (Laghutva), increased mobility and alertness, easy evacuation of bowels and bladder, Enhanced prana flow. Effect on mind clarity of perception, Better concentration and memory.<sup>[8]</sup>

### **4. Modern Physiological Correlates**

This period is associated with heightened vitality and improved mental alertness. Awakening in harmony with the rising sun helps align the body with its natural circadian rhythm, thereby promoting optimal neuroendocrine function.<sup>[9,10]</sup> Research in chronobiology suggests that this time corresponds with beneficial hormonal variations that enhance cognitive efficiency and mental well-being.<sup>[11]</sup> Moreover, the early morning environment contains abundant freshly generated atmospheric oxygen, which readily combines with hemoglobin to form oxyhemoglobin, ensuring effective oxygen delivery even to peripheral tissues.<sup>[12]</sup>

#### **1. Circadian Rhythm & Early Morning Physiology**

Melatonin plays a crucial role in regulating the sleep–wake cycle and circadian rhythm. Its secretion is controlled by light perception in the retina; exposure to light suppresses melatonin production, while darkness stimulates it. Retinal signals are conveyed to the suprachiasmatic nucleus of the hypothalamus and then to the pineal gland. Nocturnal melatonin secretion promotes sleep by reducing body temperature and respiratory rate, whereas low daytime levels facilitate wakefulness and alertness. Melatonin receptors are predominantly located in the suprachiasmatic nucleus and are also present in peripheral tissues. In addition to its chronobiological role, melatonin possesses antioxidant and immunomodulatory properties. Melatonin levels gradually decline with age and are associated with age-related disorders.<sup>[13]</sup>

#### **2. Neuro-endocrine Benefits**

ACTH(adrenocorticotropic hormone) secretion follows circadian rhythm i.e. it varies in different periods of day. The rate of secretion of both ACTH and CRF(corticotropin releasing factor) is high in the morning and low in the evening. CRF in turns, causes release of ACTH,

which induces glucocorticoid secretion.<sup>[14]</sup>

### 3. Mental Health

The increase in glucocorticoid level is very essential for survival during stress conditions, as it offers high resistance to the body against any type of stress.<sup>[14]</sup>

### 4. Anti-inflammatory effect

Glucocorticoid sections are high in early morning which prevent inflammatory reactions. Even if inflammation has already started, the glucocorticoid cause an early resolution of inflammation and rapid healing.<sup>[14]</sup>

### 5. Early morning meditation and autonomic balance

Meditation practiced during the early morning hours facilitates positive effects, resulting in a sustained sense of physical and mental well-being. Regular practice of meditation has been shown to enhance baroreflex sensitivity and reduce sympathetic nervous system activity, thereby aiding in the normalization of blood pressure in patients with essential hypertension. The observed reduction in heart rate and blood pressure reflects a shift in autonomic balance toward parasympathetic predominance.<sup>[15]</sup>

## DISCUSSION

The classical concept of Brahma Muhurta reflects a profound understanding of temporal regulation of human physiology. When interpreted through the lens of modern chronobiology, early awakening corresponds with optimal alignment of circadian rhythms governed by the suprachiasmatic nucleus. Exposure to early morning light, synchronized hormonal secretion, and withdrawal of melatonin collectively promote neuro-endocrine balance, cognitive efficiency, and emotional stability.

Early awakening, supported by adequate early-night sleep, promotes optimal nocturnal melatonin secretion. It exhibits oncostatic effects against various malignancies, including breast, ovarian, and endometrial cancers, as well as intestinal neoplasms and hepatocellular carcinoma. Melatonin also possesses potent antioxidant properties. Therapeutic use of melatonin has been reported to reduce blood pressure in hypertensive individuals and to improve symptoms of major depressive disorder and anxiety. Recent research has demonstrated neuroprotective effects of melatonin against oxidative stress, highlighting its therapeutic potential in neurodegenerative disorders such as Alzheimer's disease, Parkinson's

disease, Huntington's disease, and amyotrophic lateral sclerosis.<sup>[16]</sup> Therefore, the practice of awakening during Brahma Muhurta (Brahme Muhurte Uttiṣṭhet) assumes significant importance in the prevention and management of non-communicable diseases.

Dinacharya places Brahma Muhurta as the foundational behaviour upon which other daily activities are structured. Regular awakening during this period facilitates timely evacuation, disciplined eating patterns, and adherence to physical and mental practices. Such regularity is now recognized as a key determinant of metabolic health, mental well-being, and prevention of lifestyle disorders. It helps to maintain dosha equilibrium and prevent kapha accumulation and kapha dominant diseases.

Importantly, Ayurvedic classics advocate individualization, advising early rising only when digestion is complete and avoiding rigid adherence in debilitated or diseased individuals. This principle aligns with contemporary personalized medicine. In modern society, characterized by late-night screen exposure and social jet lag, revival of Brahma Muhurta- oriented routines—along with sleep hygiene and light management—may help counter circadian disruption and reduce the burden of non-communicable diseases.

## CONCLUSION

Brahma Muhurta Jagarana, as an integral component of Dinacharya, represents a timeless, cost-effective, and scientifically relevant lifestyle practice. Its concordance with circadian biology, neuro-endocrine regulation, mental health optimization, and anti-inflammatory mechanisms substantiates the classical Ayurvedic emphasis on early rising. Incorporation of this practice into individual counselling, public health initiatives, and preventive healthcare strategies can significantly contribute to health promotion and disease prevention. Further clinical and community-based research is warranted to strengthen evidence and guide widespread implementation.

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