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A Scientific Appraisal of Dincharya: Integrating Ayurvedic Daily Regimen with Contemporary Science

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Abstract

Background: Dincharya (daily regimen) is a foundational concept in Ayurveda that prescribes a structured sequence of lifestyle practices aimed at maintaining health and preventing disease. With the growing global burden of non-communicable diseases and circadian rhythm disruptions, there is increasing interest in evaluating traditional lifestyle frameworks through the lens of contemporary biomedical science.
Objective: This review aims to critically appraise the scientific basis of Dincharya and explore its relevance in the context of chronobiology, metabolism, gut microbiota, and preventive medicine.
Methods: A narrative review was conducted using classical Ayurvedic texts, including Charaka Samhita, Sushruta Samhita and Ashtanga Hridaya, alongside peer-reviewed literature from PubMed, Scopus, and Web of Science.
Results: The principles of Dincharya demonstrate substantial concordance with modern scientific understanding. Early morning awakening (Brahma Muhurta) aligns with circadian rhythm regulation and cortisol dynamics, enhancing metabolic efficiency and cognitive function. Oral hygiene practices such as Dantadhavana, Jivha Nirlekhana, Gandusha and Kavala exhibit antimicrobial activity, regulate salivary pH, support oral microbiota balance, and contribute to systemic health via nitric oxide pathways. Anjana (collyrium application) and Nasya (intranasal therapy) show plausible mechanisms involving ocular pharmacokinetics and olfactory–neuroendocrine pathways, influencing both local and systemic functions. Abhyanga (oil massage) improves blood circulation, lymphatic drainage, neuromuscular relaxation, and skin health, while also modulating autonomic nervous system activity. Collectively, these practices support homeostasis, enhance immunity, and contribute to the regulation of metabolic and neurophysiological processes, reflecting the Ayurvedic concept of balanced Agni and Dosha equilibrium.
Conclusion: Dincharya represents a comprehensive lifestyle framework with strong scientific plausibility and translational relevance. Integrating Ayurvedic daily regimens with contemporary chronobiology and lifestyle medicine may offer a sustainable, preventive approach to modern health

	challenges. Further clinical and mechanistic studies are warranted to validate its efficacy and facilitate its integration into global healthcare systems. **Keywords:** Abhyanga, Dincharya, Gandusha, Kaval, Nasya

INTRODUCTION:

The concept of Dincharya (daily regimen) in Ayurveda is encapsulated in the classical dictum, "Pratidinam kartavyam charya dincharya,"[1] signifying the importance of adhering to a structured daily routine for the preservation of health. The term Dincharya is derived from two Sanskrit words: Dina (day) and Charya (conduct or regimen), collectively referring to daily practices aligned with natural biological rhythms (Prakriti). In Ayurvedic science, Dincharya is regarded as a fundamental prophylactic strategy aimed at preventing disease and promoting overall well-being. Regular adherence to these daily practices is believed to synchronize the body's internal biological clock, optimize metabolic functions and enhance both physical and mental health. Scientifically, such structured routines can be correlated with circadian rhythm regulation, improved metabolic homeostasis, and neuropsychological stability. According to Ayurveda, a healthy individual (Swastha) is defined as one whose Dosha, Dhatu, and Mala are in a state of equilibrium, along with a balanced Agni, and harmonious functioning of the mind, senses, and spirit. Regular implementation of Dincharya plays a crucial role in maintaining this equilibrium and thereby sustaining health and preventing disease[2].

Objectives of the Study –

To explore the conceptual framework of Dincharya in Ayurveda and to evaluate the scientific relevance and modern implications of Dincharya for health promotion.

Material and Methods –

Information about the review paper was conducted using classical Ayurvedic texts, including Charaka Samhita, Sushruta Samhita and Ashtanga Hridaya, as primary sources of data. Relevant concepts related to Dincharya were systematically extracted and analyzed from these foundational texts. Contemporary literature was reviewed through electronic databases like MEDLINE, PubMed, Scopus, AYUSH Portal and Namaste Portal. The collected information was critically appraised and synthesized to explore the scientific basis and contemporary relevance of Dincharya.

Results –

1. Brahma Muhurta (Early Morning Awakening)

Ayurveda recommends that a healthy individual should wake up during Brahma Muhurta, which is approximately 48 minutes before sunrise, as this period is considered optimal for maintaining physiological and mental well-being. This time is symbolically associated with Brahma, representing intellect (Buddhi) and higher cognitive functions[3,4]. From a scientific perspective, awakening during this pre-dawn phase aligns with the body's circadian rhythm, particularly the early morning surge in cortisol levels, which enhances alertness, metabolic efficiency, and overall biological preparedness for the day. Regular practice of waking at this time has been associated with improved immune function, increased energy levels, and better regulation of acid–base balance in the body. It may also promote optimal absorption and utilization of nutrients while helping to alleviate musculoskeletal discomfort such as pain, stiffness, and cramps, thereby contributing to overall health and well-being.

2. Dantadhavana (Oral Hygiene)

Dantadhavana (oral hygiene) is an essential component of Dincharya, wherein an individual is advised to clean the teeth twice daily using an herbal twig, ensuring that the gums are not injured during the process. The twig should be approximately 12 Angula in length and of a thickness comparable to the girth of the little finger, smooth, and free from knots. The tip is gently chewed to create a brush-like structure for effective cleansing[5]. Ayurveda recommends the use of twigs possessing Katu (pungent), Tikta (bitter) and Kashaya (astringent) tastes, which exhibit antimicrobial and astringent properties. Acharya Sushruta has described specific plants

such as Karanja (Pongamia pinnata), Neem (Azadirachta indica), Khadira (Acacia catechu), and Madhuka (Glycyrrhiza glabra) as ideal for oral hygiene based on their pharmacological actions. In addition, Danta Churna formulations containing Trikatu (Zingiber officinale, Piper nigrum, Piper longum), Trivarga, Tejovati, honey, oil and Saindhava Lavana are recommended for enhancing oral cleanliness and stimulating salivary secretion[6]. Scientifically, these practices help reduce oral microbial load, prevent plaque formation, improve gingival health, and maintain oral microbiome balance. Dantadhavana is also known to alleviate halitosis (Mukhdaurgandhya), reduce Kapha accumulation in the oral cavity and stimulate appetite through reflex activation of digestive pathways[7]. However, this practice is contraindicated in conditions such as diseases of the teeth, lips, throat, palate, or tongue, as well as in Ajirna (indigestion), vomiting, dyspnoea, cough, fever, facial paralysis, excessive thirst, oral ulcers and certain disorders related to the heart, eyes, head and ears.

3. Jivha Nirlekhana (Tongue Scraping)

Jivha Nirlekhana (tongue scraping) is an important component of daily oral hygiene in Ayurveda, wherein the tongue is gently cleaned using an instrument made of metals such as gold, silver or iron, or with a suitably soft, smooth, and sturdy herbal twig. The instrument should ideally be about 10 Angula in length to allow effective and safe cleaning of the tongue surface. This practice helps in the removal of accumulated debris, microbial load, and coating (tongue biofilm), thereby improving oral hygiene. Clinically, it is beneficial in reducing halitosis (Mukha Dourgandhya), alleviating stiffness and oedema of the tongue and enhancing taste perception by preventing conditions such as Aruchi (loss of taste) and Vairasya (altered taste sensation)[8]. From a modern scientific perspective, tongue scraping contributes to the reduction of volatile sulphur compounds produced by oral bacteria, supports a balanced oral microbiome, and may indirectly aid digestive function by improving gustatory sensitivity and stimulating salivary secretion[9].

4. Gandusha and Kavala (Oil pulling & Gargling)

Gandusha and Kavala are important oral therapeutic procedures described in Dincharya. Kavala refers to the process in which a small quantity of medicated paste or liquid is held and actively swished within the oral cavity, whereas Gandusha involves filling the mouth completely with medicated liquid such as oil, ghee, or decoction and holding it without movement[10]. The choice of drugs for these procedures varies according to the predominance of Dosha and may include preparations using ghee, oil, cow's milk, fermented liquids (Madya), meat soup (Mamsa Rasa), fresh plant juices (Swarasa), honey-water mixtures, urine (Mutra), or Dhanyamla[11]. In healthy individuals, daily practice is generally recommended with oil or Mamsa Rasa to maintain oral health. Gandusha should be retained in the mouth until signs such as fullness of the oral cavity with Kapha (Kaphapurna Asyata), nasal discharge (Ghrana Strava) and lacrimation (Akshi Strava) appear, indicating adequate stimulation and therapeutic effect[12]. From a scientific standpoint, these procedures enhance salivary secretion, improve oral clearance and facilitate the removal of toxins and microbial biofilms. The medicated substances, owing to their Sukshma (subtle), Ushna (hot) and Tikshna (penetrative) properties, help in liquefying and eliminating accumulated Doshas from the oral and adjacent regions. Additionally, certain volatile components may enhance bioavailability through mucosal absorption, and in some cases, gaseous or volatile fractions can be absorbed into systemic circulation due to pressure gradients and large surface areas. Regular practice of Kavala and Gandusha has been shown to improve jaw strength (Hanu Bala), voice quality (Swar Bala), facial tone (Vadanopachaya), taste perception (Rasajnana) and appetite (Ruchi), while preventing dryness of the throat, chapping of lips and strengthening the teeth and gums[13].

5. **Anjana (Application of Collyrium)**

Anjana (application of collyrium) is an important ocular care practice described in Dincharya. According to Ayurveda, the eyes are predominantly composed of Tejo Mahabhuta, making them particularly susceptible to vitiation by Kapha Dosha; hence, measures that alleviate Kapha are considered beneficial for maintaining clarity of vision and ocular health[14]. Daily application of Souvir Anjana is recommended for preserving vision and preventing conditions such as Kandu (itching), Klinnata (excess moisture), Daha (burning sensation), Mala (discharge) and Vedana (pain). In addition, Rasanjana is advised for use at intervals of every fifth or eighth day, preferably at night, to eliminate accumulated Kapha from the ocular structures. The use of Tikshna (strong or irritant) Anjana during daytime is contraindicated, as it may weaken the eyes. Since the evacuative action of collyrium can temporarily reduce ocular strength, its application is specifically recommended during nighttime to avoid exposure to sunlight, which may otherwise aggravate ocular sensitivity and impair vision.

6. Nasya (Nasal Administration of Medicated Oil)

Nasya is a therapeutic procedure in which medicated oils or drugs are administered through the nostrils, which are considered the gateway to the head (Shiras). Among its types, Pratimarsha Nasya is recommended for daily practice, wherein two drops of medicated oil are instilled into each nostril. This gentle and regular administration is considered safe for routine use and plays a significant role in maintaining the health of the head and neck region[15]. From an Ayurvedic perspective, Nasya primarily pacifies Vata Dosha and provides unctuousness (Sneha) to the tissues of the head and neck, thereby helping to prevent degenerative changes in the brain and sense organs. It is traditionally indicated in the prevention and management of conditions such as Khalitya (hair fall), Palitya (premature greying), Manyastambha (neck stiffness), Hanustambha (jaw rigidity), Shirashoola (headache), Ardita (facial palsy) and Peenasa (rhinitis). From a modern viewpoint, intranasal drug delivery allows rapid absorption through the highly vascular nasal mucosa, facilitating both local and systemic effects, including potential direct access to the central nervous system via the olfactory pathway, thereby supporting neurological and respiratory health.

7. Abhyanga (Oil Massage)

Abhyanga refers to the application and massage of the entire body, including the head, with medicated oil, and is considered an essential component of Dincharya. This practice promotes overall physical and mental well-being by improving circulation, enhancing neuromuscular coordination and supporting tissue nourishment. Regular Abhyanga is described to delay the ageing process, relieve fatigue, induce relaxation, and help in the management of Vata-related disorders. It also improves skin complexion, enhances sleep quality, strengthens the body, and contributes to longevity[16]. From a physiological perspective, oil massage stimulates mechanoreceptors in the skin, activates the parasympathetic nervous system, reduces stress hormones and improves lymphatic drainage and peripheral circulation. However, Abhyanga is contraindicated in conditions such as aggravated Kapha Dosha, immediately after undergoing Shodhana (purificatory therapies) and in states of indigestion (Ajirna), where impaired metabolic activity may hinder proper assimilation of the therapy.

DISCUSSION:

The Brahma Muhurta (predawn period) is traditionally considered to have a fresh and relatively unpolluted atmosphere, which may facilitate improved respiratory efficiency. It has been suggested that the availability of cleaner air during this time enhances oxygen intake and supports effective oxygen transport through haemoglobin in the form of oxyhaemoglobin. This physiological advantage may contribute to improved tissue oxygenation and overall metabolic function[17]. Scientific evidence suggests that Dantadhavana using herbal twigs can beneficially modulate salivary pH, making it more alkaline, which helps neutralize acids produced by pathogenic oral bacteria. Since acidic conditions play a crucial role in the initiation and progression of dental caries, this alkalinization contributes to the protection of tooth enamel and overall dental health. Additionally, studies indicate that the use of herbal twigs preserves the beneficial oral microbiota, particularly nitrate-reducing bacteria that convert nitrate to nitrite and subsequently to nitric oxide. This pathway is important for maintaining vascular health, as nitric oxide plays a key role in regulating blood pressure, endothelial function, and insulin sensitivity; its deficiency has been associated with conditions such as atherosclerosis, hypertension, and insulin resistance[18]. Furthermore, Khadira (Acacia catechu), one of the commonly recommended twigs, contains bioactive compounds such as taxifolin, which exhibit significant antifungal, antiviral, antibacterial, anti-inflammatory and antioxidant properties, thereby contributing to both oral and systemic health[19]. Clinical studies have demonstrated that regular use of a tongue scraper plays a significant role in reducing the oral microbial load, particularly anaerobic bacteria such as Actinomyces and Eubacterium, which are major contributors to halitosis. By effectively removing the tongue coating and associated biofilm, tongue scraping decreases the production of volatile sulphur compounds responsible for bad breath, thereby improving oral hygiene and overall oral health[20].

The therapeutic effects of Kavala and Gandusha can be explained through modern physiological mechanisms. During these procedures, the active constituents of the medicated formulations are absorbed through the buccal mucosa, allowing rapid entry into systemic circulation. The retention and swishing of the liquid create mechanical pressure within the oral cavity, which stimulates chemo-receptors and mechano-receptors, thereby activating the salivary nuclei in the brainstem. This leads to enhanced salivary secretion, which plays a crucial role in oral cleansing. Increased salivation helps dislodge toxins, food debris, and superficial pathogenic microorganisms, which then mix with the medicated medium and are expelled from the oral cavity. Additionally, the salivary buffering system contributes to the regulation of oral pH, creating an environment unfavourable for bacterial growth. These practices also enhance local immune defence by stimulating salivary

glands to secrete saliva rich in immunological components such as IgA, IgM, and lysozyme, along with coagulation factors like VIII, IX and X, which aid in protecting oral tissues from microbial invasion and support wound healing[21].

From a physiological perspective, the application of Anjana acts as a mild foreign stimulus to the ocular surface, triggering reflex lacrimation due to stimulation of the cornea and conjunctiva. This reflex secretion leads to partial washout of the applied drug through tear flow, while a significant portion may drain via the nasolacrimal duct (NLD). Additionally, some fraction of the formulation may be lost through evaporation (particularly in Rasakriya Anjana), enzymatic degradation within the tear film or binding to tear proteins. The fraction that drains through the NLD can be absorbed through the nasal, laryngeal and oral mucosa, potentially contributing to systemic bioavailability. Due to the presence of multiple anatomical and physiological barriers in the eye, the pharmacological action of Anjana is primarily localized to the anterior segment. In Ayurvedic pharmacology, the therapeutic effects of Anjana are understood based on the principles of Rasa (taste), Guna (qualities), Virya (potency), Vipaka (post-digestive effect) and Prabhava (specific action), which collectively determine its efficacy on ocular tissues. The mechanism of Nasya can be explained in relation to olfactory stimulation and neurophysiological pathways. The olfactory nerve, unlike other cranial nerves, has a direct anatomical and functional connection with the brain, making it a unique route for drug delivery. The peripheral olfactory receptors present in the nasal mucosa act as chemoreceptors, which respond to the administered medicated substances. These olfactory pathways are closely linked to higher centres of the brain, particularly the limbic system, including the amygdaloid complex, hypothalamus, anterior thalamic nuclei and parts of the basal ganglia. Stimulation of these regions plays a crucial role in modulating emotional, autonomic and endocrine functions. Therefore, drugs administered through the nasal route can influence the central nervous system and neuroendocrine regulation, thereby contributing to the therapeutic effects of Nasya in maintaining neurological health and systemic homeostasis[22]. Abhyanga, the therapeutic application of oil with massage, demonstrates significant physiological effects that support its traditional indications. It enhances arterial circulation by promoting vasodilation and increasing peripheral blood flow in the massaged areas, thereby improving tissue perfusion and nutrient delivery. Additionally, massage facilitates venous return and lymphatic drainage, reducing the likelihood of fluid stagnation and oedema in interstitial spaces; this mechanical action closely mimics normal muscular contractions, aiding circulatory efficiency. At the level of soft tissues, Abhyanga improves elasticity, plasticity, and mobility, contributing to better musculoskeletal function. It also positively influences skin health by enhancing its nutritive status, increasing local temperature and improving overall texture and tone. Shiro Abhyanga, the application of oil to the scalp, is particularly beneficial for maintaining the health of the head and nervous system and is traditionally recommended as a daily practice to prevent and manage disorders related to the head region[23,24].

CONCLUSION:

Dincharya, as described in Ayurveda, represents a comprehensive and preventive lifestyle framework with significant potential in disease prevention and health promotion. It embodies a structured, evidence-informed approach that supports the maintenance of optimal physical, mental, social, and spiritual well-being. In the context of the rapidly increasing burden of non-communicable and lifestyle-related disorders, the relevance of Dincharya is particularly noteworthy. Many of these conditions are largely preventable through appropriate lifestyle modifications, highlighting the importance of adopting structured daily regimens. From a contemporary scientific perspective, Dincharya aligns closely with principles of chronobiology, metabolic regulation and behavioral health, thereby reinforcing its applicability in modern healthcare. A deeper exploration of its scientific basis is essential to facilitate better understanding, validation and global acceptance. Thus, integrating Dincharya into present-day health practices may contribute to the development of sustainable, preventive healthcare strategies and support the creation of a healthier future at both individual and population levels.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES:

1. Ravidutta Tripathi, Ashtang Samgraha of Vagbhata, Chaukhambha Sanskrit Pratishthan, Delhi 2001 Page No. 36
2. Anant Ram Sharma, Sushruta Samhita of Maharshi Sushruta; 'Sushruta vimarshini' Hindi Commentary; Chaukhamba Surbharati Prakashan, Sutra Sthana, 15/48.
3. Bulusu Sitaram, Ashtang Hridayam of Vagbhata, Sutrasthana Vol 1, Chaukhambha Orientalia, Page no.1
4. Vagbhatta, Ashtangasamgraha with Shashilekha Commentary of Acarya Indu, Edited by Shivprasad Sharma, Sutra Sthan Chapter 3, verse 2, 3rd Edition, Varanasi: Chowkhambha Sanskrit Series office, 2012, p. 16.
5. Brahmanand Tripathi, Charaka Samhita Vol. 1, Chaukhambha Surbharti Prakashan, Varanasi, 2012, Page no.130
6. Kaviraja Ambikadutta Shastri, Sushruta Samhita Part 1, Chaukhambha Sanskrit Sansthana, Varanasi, 2012, Page no.131
7. Brahmanand Tripathi, Charaka Samhita Vol. 1, Chaukhambha Surbharti Prakashan, Varanasi, 2012, Page no.131
8. Kaviraja Ambikadutta Shastri, Sushruta Samhita Part 1, Chaukhambha Sanskrit Sansthana, Varanasi, 2012, Page no.132
9. Krespi YP, Shrime MG, Kacker A. The relationship between oral malodor and volatile sulfur compound–producing bacteria. Otolaryngology—Head and Neck Surgery. 2006 Nov;135(5):671-6.
10. Shailja shrivastav, Sharangdhar Samhita uttar khand, chaukhamba orientalia, varanasi. Page no. 419.
11. Kaviraja Ambikadutta Shastri, Sushruta Samhita Part 1, Chaukhambha Sanskrit Sansthana, Varanasi, 2012, Page no.230
12. Shailja shrivastav, Sharangdhar Samhita uttar khand, chaukhamba orientalia, varanasi. Page no. 420.
13. Brahmanand Tripathi, Charaka Samhita Vol. 1, Chaukhambha Surbharti Prakashan, Varanasi, 2012, Page no. 132
14. Kaviraj Sri Ambikadatta sastri, Rasaratna Samuchchaya of Sri Vagbhatacharya, Chaukhambha Amarabharati Prakashan, Page no. 80
15. Charak Samhita, Sutrasthana, Matrashitiyaadhyaya, 5/56 63. Available from: http://niimh.nic.in/ebooks/echarak.
16. Kaviraja Ambikadutta Shastri, Sushruta Samhita Part 1, Chaukhambha Sanskrit Sansthana, Varanasi, 2012, Page no. 133.
17. Gupta R, Shukla O, Shrivastava V, Acharya P. A decent science behind the brahma muhurta. International Journal of Ayurvedic and Herbal Medicine. 2014 Sep 13;7(6).
18. Bairwa R, Gupta P, Gupta VK, Srivastava B. Traditional medicinal plants: use in oral hygiene. Int J Pharm Chem Sci. 2012 Oct;1(4):1529-38.
19. Imran I, Hussain L, Zia-Ul-Haq M, Janbaz KH, Gilani AH, De Feo V. Gastrointestinal and respiratory activities of Acacia leucophloea. Journal of ethnopharmacology. 2011 Dec 8;138(3):676-82.
20. Laleman I, Koop R, Teughels W, Dekeyser C, Quirynen M. Influence of tongue brushing and scraping on the oral microflora of periodontitis patients. Journal of periodontal research. 2018 Feb;53(1):73-9.
21. Roopa L, Fiaz S, Chary DL, MR BY. Role Of Gandusha In Pittaja Mukhapaka (Aphthous Ulcer)-A Randomized Controlled Trial. International Journal of Ayurveda and Pharma Research. 2019 May 15.
22. Sheetal B, Bamnikar M, Baheti SR. Mechanism of nasya: an overview.
23. Kumar S, Rani J, Yadav SK. Anatomical Explanation on method of Abhyanga wsr to muscle attachments. Journal of Ayurveda. 2016 Oct;10(4).
24. Namjoshi PV. Possible scientific reasons behind the supportive actions of Sthanika Snehana and Swedana. Pharma Science Monitor. 2015 Jan 1;6(1).