



Review Article

HANSODHAK: AN AYURVEDIC PERSPECTIVE OF WATER PURIFICATION IN SHARAD RITU WITH MODERN CORRELATION

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ABSTRACT

Ayurvedic texts emphasize the necessity of pure water for health and disease prevention. Contaminated water (*Dushta Jala*) has been identified as a major cause of illnesses, especially in the post-monsoon period. The concept of *Hansodhak Jala*- naturally purified water-describes water acquiring cleansing and therapeutic properties when exposed to *Surya* (sunlight), *Chandra* (moonlight), and *Agastya Nakshatra* (Canopus star). This practice holds particular relevance in *Sharad Ritu*, a season linked to aggravated *Pitta dosha* and frequent waterborne diseases. The present study examines classical references to *Hansodhak Jala* and assesses their symbolic and practical significance. The traditional view is correlated with modern scientific methods of purification, including solar disinfection (SODIS), photodynamic treatment, and seasonal epidemiology. Findings suggest that *Hansodhak Jala* represents a natural, eco-friendly, and community-based strategy for ensuring water safety. The study concludes that *Hansodhak Jala* bridges ancient Ayurvedic wisdom with contemporary public health practices, underscoring the enduring relevance of traditional approaches in securing safe drinking water.

INTRODUCTION

Water (*Jala*) is one of the *Panchamahabhutas* and is considered the foundation of life in *Ayurveda*. It not only sustains the physiological processes of the body but also contributes to mental and spiritual well-being. The quality of water directly influences health, and therefore, *Ayurveda* makes a clear distinction between *Hita Jala* (wholesome water) and *Ahita Jala* (unwholesome or contaminated water). Classical *Ayurvedic* treatises including the *Charaka Samhita* and *Sushruta Samhita* describe *Dushta Jala* (impure water) as a major *Nidana* (causative factor) for several disorders, particularly those of gastrointestinal and dermatological origin [1,2].

Ayurveda gives special emphasis to the effect of seasonal variations on water quality. During *Varsha Ritu* (monsoon season), water bodies often become

turbid, stagnant, and contaminated due to excessive rainfall, flooding, and organic accumulation. With the onset of *Sharad Ritu* (autumn), aggravated *Pitta Dosha* interacts with such contaminated water, predisposing populations to epidemics of *Jvara* (fevers), *Atisara* (diarrhoea), *Kushtha* (skin diseases), and other seasonal disorders[3]. In order to prevent these conditions, *Ayurvedic* scholars recommended the use of *Hansodhak Jala*- water purified naturally through the influence of *Surya* (sunlight), *Chandra* (moonlight), and the celestial appearance of *Agastya Nakshatra* (Canopus star) [4]. The term *Hansodhak* is derived from the symbolic ability of the swan (*Hamsa*) to separate milk from water, representing purity and discrimination. In this way, the concept highlights both the physical purification and the subtle energetic transformation of water. The practice also demonstrates the integration of environmental science, seasonal epidemiology, and astronomical observation into daily life for health promotion and disease prevention.

In the current era, the importance of water quality has gained renewed attention. According to the World Health Organization (WHO), nearly two billion

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people worldwide consume water contaminated with faeces, and waterborne diseases account for approximately 485,000 diarrhoeal deaths annually [5]. Although modern purification methods exist, they are often expensive and inaccessible in rural or resource-limited settings. Therefore, the traditional practice of *Hansodhak Jala* becomes relevant, offering a sustainable, low-cost, and eco-friendly method of ensuring safe drinking water.

This article aims to explore the Ayurvedic concept of *Hansodhak Jala*, its seasonal significance in *Sharad Ritu*, and its correlation with modern scientific principles of water purification.

AIMS AND OBJECTIVES

The study aimed to:

1. Review the concept of *Haṃsodhaka Jala* in classical Ayurvedic texts.
2. Examine its seasonal relevance in *Śarad Rtu* with reference to *Pitta Doṣa* and waterborne diseases.
3. Analyse the role of *Sūrya*, *Candra*, and *Agastya Nakṣatra* in natural water purification.
4. Correlate Ayurvedic concepts with modern methods such as solar disinfection and photochemical purification.
5. Highlight its contemporary relevance as a sustainable public health measure.

Review of Literature

1. Duṣṭa Jala (Contaminated Water)

Ayurvedic descriptions of *Duṣṭa Jala* include attributes such as *Guru* (heaviness), *Durgandha* (foul odour), *Apriya Rasa* (unpleasant taste), and *Vyādhi Janakatva* (disease-causing potential) [6]. The *Suśruta Saṃhitā* associates its consumption with epidemics (*Janapadodhwamsa*), reflecting an early understanding of public health threats [7]. These descriptions correspond with modern definitions of water contamination, encompassing microbial and chemical pollutants as major risk factors [8].

2. Haṃsodhaka Jala in Ayurveda

The concept of *Haṃsodhaka Jala* has been described in *Ayurvedic Saṃhitās* and their commentaries as water that becomes *Pāna-yogya* (wholesome for drinking) after undergoing a natural process of purification through cosmic and seasonal influences. Unlike artificially purified water, this method emphasizes the synergistic role of natural energies—*Sūrya*, *Candra* and the appearance of *Agastya Nakṣatra*—in rendering water free from impurities, microbes, and undesirable qualities.

• Role of *Sūrya* (Sunlight)

The exposure of water to the rays of the Sun (*Sūryāṃśu*) is considered a fundamental purifier in Ayurveda. *Sūrya* by its inherent *Uṣṇa* and *Tikṣṇa guṇa*

eliminates turbidity (*Mala-mala*), destroys disease-causing organisms, and reduces the slimy quality that accumulates in stagnant water. Modern interpretation supports this ancient view by correlating it with the ultraviolet rays of sunlight, which have antimicrobial and disinfectant action, thereby decreasing pathogen load and improving transparency of water [9]. Thus, *Sūrya* transforms water into a health-promoting medium, suitable for consumption during *Varṣā ṛtu* when natural contamination is common.

• Role of *Candra* (Moonlight)

Water exposed to *Candra-kiraṇa* acquires *Śīta*, *Mṛdu* and *Sthirikaraṇa* properties. This process not only enhances the taste and palatability (*Rasa-prasādana*) of water but also balances aggravated *Pitta doṣa*. Classical texts prescribe such water particularly in *Śarad ṛtu* (autumn season), when *Pitta* predominance is naturally elevated. The cooling and stabilizing attributes of moonlight exposure thereby make water more suitable and wholesome for seasonal adaptation [10].

• Role of *Agastya Nakṣatra*

The observation of *Agastya Nakṣatra* (Canopus star) rising in the southern sky holds special significance in Ayurvedic understanding of water purification. According to ancient seers, its appearance marks the natural cessation of monsoon-related stagnation. During the rainy season, water generally becomes impure (*Aprasanna*, *Mala-yukta*), leading to digestive and infectious disorders. The advent of *Agastya* is considered a celestial indicator for the restoration of pure, drinkable water (*Pāneya jala*). This reflects a seasonal regulation mechanism wherein nature itself signals the safe usability of water [11].

Ayurvedic Significance

The triadic influence of *Sūrya*, *Candra* and *Agastya* on water is not merely symbolic but represents an ancient understanding of ecological, astronomical, and health-related factors in ensuring water purity. The process of *Haṃsodhaka Jala* aligns with the fundamental Ayurvedic principle of utilizing naturally available cosmic forces for health preservation (*svasthya-rakṣaṇa*). Such practices emphasize preventive healthcare by ensuring the purity of the primary life-sustaining element – *jala*.

3. Evidence from Dissertations

In recent years, the traditional Ayurvedic concept of *Haṃsodhaka Jala* has been revisited and validated through various postgraduate and doctoral dissertations, which provide scientific correlation between classical references and modern observations.

• **Gujarat Ayurveda University Dissertation (2018)**

This study highlighted the association between seasonal variation in water quality and the occurrence of *Śarad ṛtu-janya vikāras* (autumn-related morbidities). The findings demonstrated that water quality parameters, such as turbidity and microbial count, showed significant fluctuation during *Varṣā* and *Śarad ṛtu*, thereby justifying the classical prescription of *Śarad-kāla pāneya jala* [12].

• **Banaras Hindu University Dissertation (2020)**

An experimental analysis conducted at BHU assessed the impact of *Sūryāṁśu-sevana* (exposure to sunlight) on water. Results showed marked improvement in palatability and organoleptic properties of water, along with significant reduction in microbial load. The enhanced taste and clarity supported the Ayurvedic description of *Sūrya-saṁskṛta jala* as being *Rasāyana-sādrśya* (health promoting and pleasing) [13].

• **CCRAS, Delhi Dissertation (2021):**

A laboratory-based experimental study documented nearly **60% reduction in coliform counts** after 6 hours of continuous exposure to sunlight. This result strongly validated the antimicrobial efficacy of solar rays, resonating with the classical understanding that *sūrya* eliminates *jala-doṣas* and enhances purity, rendering the water *pāna-yogyā* (suitable for drinking) [14].

Integrative Perspective

Such dissertations bridge the gap between classical Ayurvedic wisdom and contemporary scientific validation. They confirm that cosmic and seasonal influences, described metaphorically in *Āyurvedic Saṁhitās*, can be substantiated through modern microbiological and environmental analysis.

4. Evidence from Research Journals

In addition to dissertations, multiple peer-reviewed studies provide strong validation of the traditional concept of *Haṁsodhaka Jala*.

• **Journal of Ayurveda and Integrative Medicine (2022)**

A controlled study reported significantly lower bacterial counts in water samples exposed to direct sunlight for a specific duration. This observation scientifically supports the *Sūryāṁśu-saṁskṛta jala* described in classical texts, highlighting the natural disinfectant action of solar rays [15].

• **International Journal of Environmental Research and Public Health (2021)**

A large-scale community-based study confirmed that Solar Water Disinfection (SODIS) reduced childhood diarrhoeal incidence by nearly 30–40% in rural populations. This finding demonstrates the

public health significance of sunlight-exposed drinking water, echoing the Ayurvedic emphasis on *Jala-śuddhi* through natural means [16].

• **Kerala Study (2019)**

An ethnographic and epidemiological survey conducted in Kerala observed that households practicing traditional *sūrya-candra jala saṁskāra* (alternate exposure of water to sun and moonlight) had a significantly lower incidence of gastroenteritis. This culturally preserved practice offers contemporary relevance for preventive health strategies [17].

Integrative Perspective

These journal findings substantiate the Ayurvedic description of *Haṁsodhaka Jala* by demonstrating measurable benefits on microbial reduction and reduction in water-borne diseases. They affirm that classical concepts, when interpreted in modern scientific light, offer sustainable, cost-effective, and culturally adaptable strategies for public health.

5. Evidence from Research Papers and Conferences

Besides dissertations and journal publications, several academic forums and conferences have presented contemporary validation of the concept of *Haṁsodhaka Jala*:

• **Proceedings of the World Ayurveda Congress (2019)**

A thematic session on *Rtu-caryā* and epidemiology highlighted the significance of *Agastya Nakṣatra* as a seasonal indicator. The deliberations emphasized that the appearance of this celestial body has traditionally been correlated with reduced water-borne epidemics post-monsoon, thus linking astronomical observation with seasonal public health dynamics [18].

• **CCRAS Seminar Presentation (2022)**

A research paper presented at a CCRAS scientific seminar reported that water exposed to moonlight exhibited improved organoleptic qualities (taste, odor, clarity, and palatability). These observations closely parallel the Ayurvedic description of *Candra-saṁskṛta jala* as *Pitta-praśamana* and *Rasa-prasādana*, thereby validating textual claims through sensory analysis [19].

Integrative Perspective

Conference-based and seminar-based evidence demonstrates that the Ayurvedic wisdom on *Jala-saṁskāra* has gained increasing recognition in both national and international research platforms. These findings extend the scope of validation from laboratory studies to academic discussions on seasonal

epidemiology, cultural practices, and sensory quality assessments of drinking water.

6. Evidence from Authentic Internet Sources

Reliable global and national organizations have also emphasized the importance of safe water and validated solar-based purification methods, paralleling the Ayurvedic approach of *Haṃsodhaka Jala*:

• World Health Organization (2023)

WHO reported that nearly 2 billion people worldwide still consume unsafe drinking water, contributing to approximately 485,000 annual diarrhoeal deaths. This alarming statistic underscores the global health burden of contaminated water and the urgent need for low-cost, sustainable purification techniques [20].

• UNICEF (2022)

UNICEF highlighted Solar Water Disinfection (SODIS) as a community-based, cost-effective intervention in low-resource settings. Its widespread adoption in rural communities was shown to significantly reduce water-borne infections, directly resonating with the Ayurvedic principle of *Sūrya-saṃskṛta jala* [21].

• Ministry of Jal Shakti, Government of India (2022)

The Jal Jeevan Mission framework recommended household-level solar purification practices as part of its safe water strategy. This national policy initiative reflects an integration of traditional wisdom with modern public health efforts, echoing the concept of naturally purified water described in Ayurvedic texts [22].

Integrative Perspective

These authentic internet-based reports highlight the global public health relevance of solar purification methods. By connecting classical Ayurvedic concepts like *Haṃsodhaka Jala* with WHO, UNICEF, and national policy frameworks, the practice emerges not only as a cultural heritage but also as a practical, evidence-based, and sustainable solution for safe drinking water in the 21st century.

DISCUSSION

The Ayurvedic concept of *Haṃsodhaka Jala* represents a sophisticated preventive strategy linking ecological observations, astronomical markers, and seasonal health. Classical insights describing the harmful effects of *Duṣṭa Jala* have been validated by modern microbiology, which confirms the pathogenic potential of contaminated water.

Solar disinfection, paralleling *Sūrya-tapta Jala*, has been proven effective in both experimental and clinical settings. RCTs and field studies confirm its efficacy in reducing diarrhoeal incidence and microbial

contamination[23]. Similarly, exposure to moonlight, though less researched, has shown measurable improvements in taste and freshness of water, aligning with descriptions of *Candra's* cooling and stabilizing influence [24]. The rising of *Agastya Nakṣatra* as a seasonal marker of potable water availability also resonates with environmental health science linking astronomical cycles to climatic and microbial changes [25].

From a global perspective, WHO and UNICEF emphasize that access to safe drinking water remains a major challenge, particularly in developing nations. The Ayurvedic practice of *Haṃsodhaka Jala* provides an eco-friendly, low-cost, and culturally relevant model for community-based water purification. Its integration into modern policies like the Jal Jeevan Mission reflects the potential of combining traditional practices with contemporary science to address Sustainable Development Goals (SDG-6).

Public Health Relevance

Contaminated water remains one of the leading causes of morbidity and mortality worldwide. *Haṃsodhaka Jala* represents an indigenous, sustainable method that can be implemented at the household and community level. Its scientific validation through solar disinfection trials makes it a strong candidate for rural water purification programs. It supports global initiatives such as SDG-6 and national programs like the Jal Jeevan Mission.

CONCLUSION

The Ayurvedic concept of *Haṃsodhaka Jala* demonstrates remarkable foresight in preventive health. By prescribing exposure of water to sunlight, moonlight, and astronomical cycles, classical texts addressed seasonal epidemics and ensured potable water. Modern evidence from dissertations, research journals, and international reports validates these traditional practices, confirming their microbial safety and public health relevance.

Thus, *Haṃsodhaka Jala* is not merely a symbolic tradition but a timeless, eco-friendly, and scientifically relevant strategy for ensuring safe drinking water. It bridges Ayurveda and modern environmental health science, offering sustainable solutions to one of the most pressing global health challenges.

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