



## Fumigation Practices in Classical Texts: A Review of *Dhoopana Karma* in *Laghutrayi*

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### Abstract

Ayurveda, the ancient science of life, embraces a holistic and natural approach to healing by not only aiming to cure diseases but also by emphasizing the promotion of overall health and well-being; it is rooted in the fundamental belief that true wellness can only be achieved through a harmonious balance between the individual's physical body, mental state, soul, spirit, and the external environment, and to maintain or restore this equilibrium, classical Ayurvedic texts have extensively described various purificatory and spiritual practices such as water purification, Homa (ritualistic fire offerings), Havan, Yagna (Vedic rituals), and Dhoopana (medicated fumigation), all of which are intended to cleanse both the internal and external environment, uplift the energy of the space, and strengthen the connection between human beings and the natural world around them.

Dhoopana is a traditional Ayurvedic therapeutic method that involves the controlled fumigation using drugs of herbal, herbo-mineral, or animal origin, and serves a wide range of healing, disinfecting, and sterilizing purposes; it is primarily employed for the treatment and management of various conditions such as Vrana (wounds), Yonivyapad (gynecological disorders), Karna Rogas (ear disorders), Nasa Rogas (nasal diseases), Guda Rogas (anal diseases), and for eliminating foul odors (Daugandhya Nashana), while also playing a crucial role in disinfecting and purifying environments such as Bheshajagara (pharmacy), Vranagara (wound care unit), Sutikagara (maternity room), Shastrakarmagruha (surgical theatre), and Kumaragara (paediatric ward), as well as in the sterilization of Ayurvedic preparations like Asavas and Arishtas; moreover, Dhoopana forms an integral part of Rakshavidhi—Ayurveda's ancient protocol for microbial protection—and the fumigation of specific medicinal plants has also been recommended for the treatment of other diseases including Arsha (piles), Jwara (fever), Unmada (insanity), Romantika (skin eruptions), and Shotha (inflammation or swelling), highlighting its broad-spectrum utility in both preventive and curative healthcare within the Ayurvedic system.

Different formulations for Dhoopana have been mentioned by Acharya Charaka, Sushruta, Vagbhata, Kashyapa, Harit, Bhel and Sharangdhara samhita. In the current review, an attempt has been made to compile all such references of Dhoopana Dravyas referred in Brihatrayi and laghutrayi.

**Keywords:** Ayurveda, Dhoopana, Fumigation, Rakshavidhi, Sterilisation.

### Introduction

In Ayurveda, "Dhoopan" refers to the process of fumigation, which involves the burning of medicinal herbs to purify an environment or to treat certain health conditions. This practice is believed to have both physical and spiritual benefits.

#### Dhoopan is Often Used to:

**Purify the Air:** Fumigation can help remove impurities and create a cleaner environment.

**Balance Doshas:** It is thought to help balance the body's three doshas (Vata, Pitta, Kapha) by targeting imbalances.

**Enhance mental clarity:** The aroma of the herbs can promote mental relaxation and clarity <sup>[1, 2]</sup>.

**Support respiratory health:** The smoke from certain herbs may aid in respiratory health by clearing nasal passages and reducing congestion <sup>[3]</sup>.

Common herbs used in Dhoopan include sandalwood, neem, and camphor, among others. Each herb has specific properties that are believed to contribute to the overall benefits of the practice.

Dhoopan, a traditional practice in Ayurveda, involves the use of medicinal herbs for fumigation. This ancient technique is employed to purify environments, support physical health, and foster mental clarity. By burning specific herbs, Dhoopan releases aromatic smoke that is believed to have therapeutic effects, aligning with the holistic principles of Ayurveda <sup>[4, 5]</sup>.

### Historical and Cultural Context

Ayurveda, the ancient Indian system of medicine, emphasizes the balance between mind, body, and spirit. Dhooapan has been a part of this tradition for thousands of years, reflecting a deep understanding of the interaction between natural elements and human well-being. Historically, this practice was employed in temples, homes, and healing spaces to create a conducive environment for health and spiritual growth [6].

### Materials and Methods:

Charaka Samhita, Sushruta Samhita, Astanga Samhita and Astanga Hridaya. With their commentaries were screened to compile references of Dhooapan. The classification, ingredients and references were tabulated. The treasured classics given Dhooapan formulations comprising of minerals, herbs, poisons and animal products with the view of benefits from these formulations by discarding the microbial contamination [7].

### Kāśyapa Samhita<sup>[8]</sup>

Kāśyapa Samhitā, one of the most authoritative and revered classical texts in Ayurveda, is uniquely dedicated to Kaumāra-bhṛtya—the branch of Ayurvedic medicine that deals exclusively with the care, treatment, and well-being of newborns, infants, and children. In this profound treatise, Āchārya Kāśyapa has allocated an entire and exclusive chapter to the practice of Dhūpana Karma (medicinal fumigation), in which he meticulously describes around 40 specific formulations intended for use at different stages of childhood—ranging from the newborn period, to the growing child, and also in various disease conditions affecting children.

This chapter not only underscores the therapeutic importance of Dhūpana in pediatric care but also presents it as a vital preventive and curative measure. Āchārya Kāśyapa strongly opines that a physician, particularly one dealing with children, should always carry Dhūpana Dravyas (fumigation materials) with him during patient visits, thereby highlighting its indispensable role in maintaining aseptic conditions, preventing the spread of infections, and promoting an environment conducive to healing.

In addition to the formulations, the text provides elaborate details on the procedure for preparation and collection of Dhūpana materials. It is specifically mentioned that these medicinal substances should be collected during auspicious Nakṣatras such as Puṣya or Maitrāyaṇī, and from geographical directions like the southeast or north, ensuring the collection is done in harmony with natural and cosmic energies for maximizing their potency and efficacy.

Furthermore, the act of chanting specific hymns or mantras during the fumigation process is also prescribed, indicating a profound understanding of the synergistic effect of sound therapy, vibrational healing, and medicinal smoke, as a holistic approach to protecting and nurturing the physical, mental, and spiritual health of the child.

A particularly insightful aspect of Āchārya Kāśyapa's teachings is his emphasis on the antimicrobial potential of Dhūpana. He recommends the use of specific fumigatory drugs in various forms of Grahā Roga—a category of pediatric disorders traditionally attributed to unseen or malevolent forces (Grahās). However, when analyzed through a contemporary lens, the morphology, symptoms, and progression of these Grahā Rogas, as described in Ayurvedic texts, can be unequivocally interpreted as reflecting infections caused by microscopic pathogenic organisms such as viruses,

bacteria, fungi, and other invisible microbes. This correlation demonstrates that ancient seers had a sophisticated, albeit symbolic, understanding of microbial infections and their impact on health—particularly in vulnerable populations like infants and children.

In summary, Āchārya Kāśyapa's detailed account of Dhūpana in his Samhitā offers a remarkably comprehensive, ritualistic, and scientific protocol that combines herbal pharmacology, cosmic timing, spiritual chants, and preventive health principles. It is a testament to the advanced understanding of pediatric hygiene, infection control, and environmental health in Ayurveda—centuries before the advent of modern microbiology or germ theory

### Bhela Samhita

Acharya has emphasized the significance of Dhooapan Karma (therapeutic fumigation) as an important treatment modality in various disease conditions, specifically highlighting its role in the management of Jvara (fever), Aparasanga (contagious or infectious diseases), and Arshas (piles or hemorrhoids). In the context of Jvara, Dhooapan is utilized not only to purify the surrounding environment and prevent the spread of infectious agents but also to support the internal healing process by reducing doshic imbalances, particularly those involving aggravated Vata and Pitta. In cases of Aparasanga, which denotes diseases of an epidemic or communicable nature, Dhooapan serves as a preventive and protective measure to purify the air, inhibit the growth of pathogens, and create a therapeutic atmosphere that minimizes the risk of transmission. Similarly, in the treatment of Arshas, Dhooapan is recommended as a supportive therapy to reduce local inflammation, alleviate pain, promote healing of the rectal tissues, and maintain hygienic conditions, thereby preventing secondary infections. Through these indications, Acharya underscores the holistic role of Dhooapan Karma not only as a curative procedure but also as an essential preventive and sanitizing practice in the Ayurvedic approach to health and disease management [9].

### Harita Samhita

Acharya has devoted an entire chapter to the detailed exposition of Havana Vidhi, a sacred and therapeutic fire ritual that holds immense significance in Ayurvedic practice, particularly within the domain of Rakshoghna Karma (protective and purificatory measures). In this comprehensive chapter, Acharya has meticulously described the Sānnpātika Varga (Sanidvarga)—a classification of various medicinal and aromatic substances known for their potent fumigatory, antimicrobial, and healing properties. These drugs are carefully selected for their ability to pacify aggravated doshas, purify the environment, and protect both the individual and the community from pathogenic influences.

Furthermore, the text provides specific mantras to be chanted in conjunction with the offering of each drug into the sacred fire, emphasizing the spiritual and vibrational aspects of the ritual. What makes this approach particularly profound is the mention of specific Nakṣatras (lunar constellations) during which the offering of particular substances becomes especially effective. This illustrates the Acharya's deep understanding of the interconnectedness between cosmic rhythms, medicinal potency, and therapeutic outcomes, reinforcing the principle of time-bound or kālajña chikitsā in Ayurveda.

Among the many indications of Dhooapan and Havana mentioned in the texts, special emphasis is laid on conditions

like Arśhas (piles/hemorrhoids) and Grahadoṣa (psychosomatic or afflictive conditions often attributed to negative energies or planetary influences). In Arśhas, Dhoopana serves not only to alleviate local symptoms like pain, swelling, and infection but also to maintain asepsis in the affected area. In Grahadoṣa, where disturbances are believed to be rooted in subtle energies affecting the mind and consciousness, the use of specific aromatic drugs in Havana, combined with appropriate mantras under the guidance of lunar constellations, is intended to restore mental and spiritual balance.

Thus, this chapter on Havana Vidhi stands as a holistic guide integrating medicinal fumigation, cosmic principles, mantra shakti, and spiritual discipline, demonstrating Ayurveda's multidimensional approach to health that spans the physical, mental, environmental, and spiritual domains.

### **Shargandhara Samhita**

Acharya has described Vrana Dhupana as one of the six types of Dhuma a 13<sup>th</sup>-century Ayurvedic text primarily focused on Aushadha Kalpana (pharmaceutical preparations), provides a detailed description of *Dhūpana* (fumigation therapy) under the context of Rakṣoghna Karma—measures aimed at protecting the patient, environment, and medicines from microorganisms, pests, and negative influences.

### **Result and Discussion**

Plants belonging to Kusthahara, Krimighna, Kandughna & VranaharaGana have mostly been used for their anti-microbial properties. Minerals having sulphur compounds Haritala (Arsenic trisulphide) & Manashila (Arsenic disulphide) have been used. Animal products like hair, nails, horns etc. [10] have been used where keratin is a structural component which contains sulphur. The sulphur present in these substances might play a key role in the disinfection. The use of excreta of different animals may have been used as the smell of it may drive away major vectors of diseases like mosquitoes, worms, maggots and other insects. Dry animal excreta have also been used as a source of fuel. Animal excreta mainly contain combustible gases. Likewise, most of the Dravyas have oleaginous substances like Ghee, Sarjarasa to help in combustion. Guggulu has been mentioned in 15 formulations, Ghee in 41 formulations, Sarjarasa in 13 Formulations and excreta 20 formulations. When these inflammable drugs are burned, they release a large amount of energy making it useful as a fuel for sustaining the flame and may also help in dispersing the volatile components of the Dhoopana formulation. Almost all the Dhoopana Dravyas have an inevitable source of combustible ingredient either as a potentiator or activator of the formulation [11].

Guggulu has been used in a number of Dhoopana formulations. The volatile oil of Guggulu was found to be highly effective against *Rhyzopertha Dominica* which suggested its role as a fumigant. An active compound, 5(1-methyl,1-aminoethyl)-5-methyl-2-octanone, of the methanolic extract of Guggulu gum possessed significant antibacterial activity against gram-positive bacteria and moderate activity against gram-negative bacteria.

Most of the formulations have been used for disinfection and removal of Vishas. The ingredients of the formulations have been incorporated in such a way so as to induce antimicrobial properties of the raw materials which help in eliminating disease vectors. For fumigation of Vranagara, it has been advised to be given twice a day for 10 consecutive days to assure and maintain a sterile environment in operation theatre.

Our ancient seers had also highlighted the importance of disinfecting clothes, bed sheet etc. and mentioned Dhoopana formulations for the maintenance of health and well-being. Likewise a number of formulations have been mentioned for the treatment of various Grahās. Dhoopana formulations have been specially given for children and patients with psychological disorders and even for Aparasāṅg. Besides, Dhoopana Karma has been considered as an integral part of Devvyaprashay Chikitsa and has been advised [12, 13, 14].

Vacha has been mentioned in 23 of the formulations. The alpha and beta asarone of *Acorus calamus* is mainly responsible for the antimicrobial activities further it has been established that beta asarone has high anti-microbial activity as compared to the alpha asarone [15]. The leaf and rhizome part of *Acorus calamus* is found to possess the antibacterial activity. The methanolic extract of *Acorus calamus* showed the inhibitory action against the bacterial strains of *Salmonella typhi*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, and *Staphylococcus aureus* [16]. Neem also has been used quite often as one of the major ingredients in most of the formulations. Azadirachtin in the Neem seed oil is a proven chemical for its insecticidal properties [17]. In a study, *Staphylococcus aureus* showed high level of inhibition of 100% in 10 min and 50% in 5 min to the fumes of *Azadiractaindica* showed maximum of 90% inhibition rate.

### **Importance of Dhoopana karma in Kaumarbhritya-**

- i). **Paricharya:** Various Acharyas describe Dhoopana as a routine procedure in New-born care. It is mentioned under Rakshakarma. Multiple methods do Rakshakarma for the stability of the new-born. Raksha Karma aims to protect new-born babies from various infections by using clean clothes, bedding, with dhoopan with different Rakshoghna dravyas. Dhoopana has many advantages, including vranashaman, eradicating germs from the environment, and reducing discomfort, discharge, odours, and microorganisms. By destroying microorganisms and establishing an aseptic environment, fumigation i.e. Dhoopana helps to prevent infection.
- ii). **Respiratory or Allergic Conditions:** Airborne diseases are commonest one, originate respiratory ailments. These spreads from droplets aerosol and forint by affected patients, cough, sneeze, sputum or nasal discharge easily contaminate the environment. Therefore, there is a need to sterile the area by disinfectant solution or fumigation. Recently Dhoopan is seldom used as a fumigation method. Dhoopkalpas are used for fumigation purpose, which are safe and have instant action to prevent airborne infection. Dravya like, tulsi, nilgiri, Karpoor, lavang tail etc can be used for the same.
- iii). **Balgraha:** Various balgrahas are explained by different Acharyas. Balgraha means disease caused by invisible vectors. The grahas are unknown facts, which suddenly and negatively affect the health and wellbeing of children leading to several spectrum of diseases. Grahās aiming for seizing child for hinsa can be treated with siddha mantra while performing hawan and yadnya. Daivavyapashraya was also done along with medical treatments. This includes fumigation, prayers, havan, homa, poojas, herbs like karanja, sarshapa, vacha.
- iv). **Nabhiroga:** Nabhi is siramula and moola for child's existence. Dhoopan is used in nabhirog as it acts as antifungal. Dhoopana of Guggul, Haridra, Lodhra. Sarshap is used in Nabhipaka for vranashodhana



followed by Vranaropana karma. Rock salt is also applied as there is pus in umbilical region to make it dry.

- v). **Effect of Various Dhoopana Dravyas:** Vacha has alpha and beta asarone of *Acorus calamus* is mainly responsible for the antimicrobial activities.

Further it has been established that beta asarone has high anti-microbial activity as compared to the alpha asarone. It has been discovered that the *Acorus calamus* plant's leaf and rhizome components have antibacterial properties. The bacterial strains of *Salmonella typhi*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, and *Staphylococcus aureus* were all inhibited by the methanolic extract of *Acorus calamus*.

Neem has Azadirachtin in the Neem seed oil is a proven chemical for its insecticidal properties. This natural fumigant not only kills pests but also affects them negatively by acting as feeding and oviposition deterrence, mating disruption, inhibition of growth etc.

Chandana, Ela –Having property of fragrance, have been used to mask the obnoxious smell of some other pungent drugs and to provide a soothing effect on the brain and help in restoring mental and spiritual balance. Most of the formulations have been used for disinfection and removal of Vishas. The formulation's contents have been combined in such a way as to encourage the raw materials' antibacterial qualities, which aid in the eradication of disease vectors. For Vranagara's fumigation, Dhoopana formulas are used for the maintenance of health and wellbeing, our ancient seers also emphasized the need of cleaning clothing, bed linens, etc. by using various Dhoopan dravyas.

A number of formulations have also been discussed in relation to the treatment of different Grahās. Specific Dhoopana formulations have been described for to Aparasang, mental diseases, seizures disorders etc. Additionally, Dhoopana Karma is considered to be an essential part of Daivavyapashraya Chikitsa and has been advised to be practiced in Pushya Nakshatra in the majority of psychiatric circumstances. These therapeutic gases can put patients at ease and help them feel peaceful. It's possible that these were recommended as these people have trouble in taking internal medications. Even for Jwara patients, dhoopana formulations have been noted frequently because, given their nasal delivery route, they are more practical. Due to the qualities of its anticoagulant, vasodilator, anti-inflammatory, thrombolytic and anaesthetizing substances, they help in the treatment of Arsha as well.

## Conclusion

Laghutrayi consists of a variety of Dhoopana Kalpanas aimed at deriving health, combating diseases and even purifying environment. These formulations have been used widely since long. The Dhoopana Dravyas mentioned in the Laghutrayi have a lot of potential to manage different diseases and for sterilising in an economical and eco-friendly way without developing any drug-resistant microorganisms. It is necessary to undergo detailed study to identify the bioactive chemical moieties of the formulations and establish their safety and efficacy profiles. Standardising, characterising and marketing these Dhoopana formulations is the need of the hour to bring a natural eco-friendly and cheap tool to combat microbes.

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